Letters to the Editor

Dear Editor,

The feature article by **Sheila List** and **Michael McDaniel**, concerning the practice of when to state empirical hypothesis before analyses or not, was disturbing. At the recent SOB conference at the University of Nebraska the consensus was that the observed lack of proper training was evident in our best journals. The interpretation of the HARKing practice as a QRP is false. My deeper question is how can we reverse this decline in quality of I-O and OB research? Several editors of leading journals expressed concern about the poor training of their reviewers and that so may well-trained people do not make time to review papers. We had no quick fix. Returning to this strange new word called HARKing, I agreed that submitting false information and selective reporting with intention to misinform are not questionable, but unethical and may be illegal. When discovered, these practices need to be punished by the research community.

When I was a doctoral student at the University of Minnesota. Twin Cities, I was taught by Paul Meehl, Marv Dunnette, Rene Dawis and others that hypothesis testing is for amateurs. Today, this has been driven home with the development of meta-analysis and deductive–inductive examination of big data (Gottfredson & Aguinis, 2016). These methods pay no attention to hypotheses. They only require your correlations and sample size, and do not analyze until they have accumulated big data.

Before meta-analysis, big data were reviewed for quality and analyzed using a form of the deductive–inductive examination. Today, more complex methods are used but at the expense of a quality. A related concern is the practice of stating recommendations based on a small study. Results of a single study, no matter how trustworthy and exciting, until it is confirmed by meta-analyses of big data are only speculations and tell us little or nothing depending on quality of methods used.

When I review research papers for publications, I have three questions that are deal killers. They are: (1) Do the authors demonstrate adequate training? (2) Have they collect quality and meaningful data? (3) Do their results and conclusions reflect the strength of their correlations? To summarize, we have a problem in reviewing the trend of declining trustworthiness in I-O and OB research. Please help us.

Cheers,
George Graen
jag

Gottfredson, R. K., & Aguinis, H. (2016). Leadership behaviors and follower performance: Deductive and inductive examination of theoretical rationales and underlying mechanisms. *Journal of Organizational Behavior*. doi: 10.11002/job.2152.

Dr. Tara Behrend
Editor, TIP

Dear Tara,

One of the great benefits of being part of the SIOP community is the investment in learning and professional development. Eleven years ago, that learning portfolio was expanded to include the Leading Edge Consortium, a new conference format with a different topic each year. Over time, these events have grown in sophistication and impact, with this past October's event being the most successful LEC ever. A great deal of that success is driven by Dave Nershi.

As the chair of the most recent LEC (2016) and the co-chair of the first LEC (2005), we have first-hand experience working closely with Dave and the Administrative Office team, particularly Linda Lentz, Tracy Vanneman, Jen Baker, Barbara Ruland, Stephanie Below, and Larry Nader. From the very first LEC to the most recent event, Dave and the Administrative Office staff have worked tirelessly to produce very professional and first rate conferences. They have expertly managed all the logistics, marketing, and details, and have been real joy to work with, creating enriching environments that support professional connections and learning.

Given Dave's pending retirement from SIOP in 2017, we wanted to ensure that he gets the SIOP recognition that he deserves for his professional and expert management skills as the SIOP executive director. His expertise, skills and commitment will be missed. We are certain that our view is widely shared among SIOP members.

Thank you, Dave, for helping SIOP to become a professional and well managed organization. All the best for the next chapters in your life.

Regards,

Alexis Fink, Chair, 2017 LEC on Big Data
Rob Silzer, Co-Chair, 2005 LEC on Executives

President's Column

Mort McPhail

I'm not sure how time can move so quickly from the heat of summer to the heat of an election (on that topic see the thought experiment in the October *TIP* by **Jessica Deselms**, **Lauren Bahls**, **Kristie Campana**, and Daniel Sachau) to the halcyon clear, crisp days on autumn. Right now we're having what we referred to in my consulting days as "recruiting weather"—just don't tell them about August in Houston.

Part of the reason time has flown is that SIOP has been busy this fall, beginning with our September Executive Board meeting. We took several actions that I think fit well with my theme of focusing on the future of I-O psychology. For example, the board approved a proposal submitted by **Deborah Rupp** to establish a SIOP Corporate Social Responsibility registry to complement and enhance I-O's visibility and impact in this arena.

The board also approved a funding proposal for SIOP's participation in two future oriented events. The first was brought by Instructional and Educational Officer **Milt Hakel** to become a sponsor for APA's first ever Summit on High School Psychology Education to be held next summer in Ogden, UT. Between the first Advanced Placement examination in psychology in 1992 and 2015, the number of students taking the examination has grown from about 3,900 to over 276,000, making the psychology AP examination one of the largest given. These numbers reflect the growing interest in psychology as a course of study, and the summit represents a long-term opportunity for SIOP to invest in its own future by introducing I-O to educators and eventually to students. Having first encountered I-O as a high school student, I can attest to the power of being there early to plant seeds.

Membership Officer **Mo Wang** offered a proposal on behalf of both CEMA and the LGBT Committee to sponsor and fund attendance at the National Multicultural Conference and Summit (NMCS) to be held in Portland, OR, in January. The conference is held biannually among several APA divisions and serves to promote interactions and conversations to exchange research, information, and best practices among educators, practitioners, researchers, and students on a wide array of topics relating to multiculturalism. Former LGBT Committee chair **Larry Martinez** has agreed to attend on SIOP's behalf. As diversity continues to increase in the workplace and across global organizational structures, I-O of the future must and will be prepared to provide the knowledge and practical applications to tap into the power of multiculturalism to the benefit of organizations and the people in them. The summit provides us an opportunity to link with our colleagues in other disciplines of psychology on these matters of crucial mutual interest.

In addition to preparing the NMCS proposal, CEMA and LGBT Committee chairs **Kisha Jones** and **Katina Sawyer** collaborated on a proposal to the board to develop means at our conference in Orlando in April to "visibly support/honor" victims of the hate crime committed at the Orlando night club last June. The board agreed that such recognition was appropriate and encouraged the committees to coordinate with the Conference Committee to fulfill this initiative.

Professional Practice Officer **Rob Silzer** presented a proposal to initiate a new Practice Update quarterly newsletter. This initiative responds to ideas raised in the last practitioner survey and will provide links to items of particular interest for practitioners, including tying into current research with application implications. It is my hope that this newsletter will foster communications among practitioners and with researchers. Professional Practice Committee chair **Will Shepherd** and **Ben Porr** from the committee are working on the content and format with Rob. Look for the first issue by email soon.

In a follow-up meeting, the EB also approved SIOP's statement for the UN on living wages, which has since been accepted by the UN Economic and Social Council. The UN is in the process of translating it into its six official languages (Arabic, Chinese, English, French, Russian, Spanish). Thanks go to SIOP member **Stuart Carr** who coauthored the statement with Darrin Hodgetts and to the SIOP UN Committee (http://www.siop.org/Prosocial/UN.aspx) and its chair **Lori Foster**. The statement will be part of the 55th session of the UN Commission for Social Development (CSocD55, https://www.un.org/development/desa/dspd/united-nations-commission-for-social-development-csocd-social-policy-and-development-division/csocd55.html). This session will take place at the United Nations Headquarters in New York from February 1-10, 2017. The priority theme for the session is "Strategies for the eradication of poverty to achieve sustainable development for all." It is through efforts like this that I-O psychology approaches the future with a growing ability to have global impact and to leverage evidence-based research to improve the lives of working people around the world.

As you might guess, given the unexpected election results, our advocacy work has taken on some complications. **Jill Bradley-Geist** and the GREAT team are working with our advocacy consultants at Lewis-Burke to develop transition documents to introduce SIOP and I-O psychology to the new administration and new members of Congress. That process slows to a crawl in Washington in the wake of any election, but we are preparing for new rounds of introductions and reinvigorating our efforts after the recently elected folks take office in the new year. As part of our effort in this regard, I have appointed a Task Force on Metrics to be chaired by **Rob Ployhart**. The application of science to the management of organizations and work improves both organizational and individual productivity, performance, efficiency, health, and well-being at work. In addition, research and application have for many years included examination and implementation of various metrics and methods that evaluate the financial and productivity benefits from improving organizational processes and implementing organizational interventions. In the larger sense, I-O psychology-based measures of organizational utility may be able to complement existing economic indicators in the United States to provide a more holistic assessment of American competitiveness. Other developed countries have integrated psychological measures of well-being into their range of economic indicators and contribute to their analyses and understanding of international competitiveness. Innovative psychological measures—such as well-being, satisfaction, engagement, and underemployment, among others—complement traditional measures like GDP. By integrating I-O psychology into economic indicators, the U.S. capability to track and analyze trends in U.S. economics could be enhanced, thus positively enhancing federal decision making, policies, and programs. The SIOP Work-

force Effectiveness Measures Task Force is charged with investigating the feasibility of SIOP developing an index, measure(s), or indicator(s) that could be used to enhance and/or moderate existing economic indicators widely used in developing and evaluating public policy to take into account the value of effectively deployed and managed human capital.

In October one of our most successful Leading Edge Consortia was held in Atlanta. The hard work of **Alexis Fink** and the committee she chaired (**Rick Guzzo**, **Hailey Herleman**, **Fred Oswald**, **Evan Sinar**, and **Scott Tonidandel**) assembled a stellar group of presenters on talent analytics that really put the "leading" in Leading Edge. The presentations covered everything from the newest work in Big Data analytics to applications in the space program to the ethical considerations with which we must struggle in this rapidly emerging field. I am convinced that this is part of our I-O future, and it is already upon us and growing both more intriguing and more ubiquitous all the time. For more on the LEC, see Alexis' article in this issue of *TIP*. At the end of the meeting, Rob Silzer, chair of the planning committee, announced that next year's LEC will be held in Minneapolis and will focus on executive coaching.

Among the many things that have been going has been our search for a new executive director to replace the retiring Dave Nershi, a daunting task if ever there was one. Last February, **Steve Kozlowski** appointed a Search Advisory Committee co-chaired by **Bill Macey** and Fred Oswald and including **Tammy Allen**, Milt Hakel, **Ann Marie Ryan**, **Neal Schmitt**, and **Nancy Tippins**. This group worked through the summer and fall to execute a process that is an exemplar of selection practice, starting with a thorough job analysis, identifying an assessment process, and including in-depth interviews and a structured integration process. They have identified several exceptional candidates for us, and we are beginning the final rounds of interviewing and hope to make an offer very soon.

Based on a suggestion from Jayne Tegge of SIOP's Administrative Office, we have initiated recognition for those who have been members of SIOP for 25+ years called the *Sterling Circle*. Communications Manager Stephany Below has been an important part of this project. SIOP exists because of our members, and we are grateful for the loyalty, expertise, experience, and contributions of our long-time members. Thank you for being a part of our Society; we look forward to continuing to serve you and all of our members as the future of SIOP continues to unfold.

The future…I have thought a lot about that since I set my goals for this year. What's coming next? How do we prepare? What have we done in the past to be ready, and how can we acknowledge and celebrate that? What are we doing now to get ready, and how can I support that? What things will get in our way or be difficult to navigate? We seem to be doing pretty well—certainly there are a great many highly competent people working on the questions, which is a very good sign. I noted in my last column that it looked like we were going to be even busier—at least I got that much right about what the future holds for us. It doesn't seem to be slowing down.

Column Editors: Mark L. Poteet, Organizational Research & Solutions, Inc.

Lynda Zugec, The Workforce Consultants

Craig Wallace, Oklahoma State University

The "Bridge" column strives to further connect science and practice by publishing articles on the subject of science and practice integration (see [Poteet, Zugec, & Wallace, 2016](#), for more background information). In this column, we profile [Huntington National Bank](#), a recent winner of the [_HRM Impact Award_](#). Sponsored by SIOP, the SIOP Foundation, the Society for Human Resource Management (SHRM), and the SHRM Foundation, the HRM Impact Award was designed to recognize, reward, and publicize "best available evidence regarding the usefulness and impact of successfully implemented innovative HRM initiatives" (HRM Impact Award, n.d.b, para. 1). To prepare this article, the aforementioned column editors communicated with two SIOP members involved in this project, **William Shepherd** ("Will") and **Robert Ployhart** ("Rob"), to obtain insights on the challenges, lessons learned, and best practices in designing and implementing an evidence-based approach across industry and academics. We begin by providing a description of the project and its results then focus more specifically on the research collaboration between Will (a senior vice president of talent and organizational effectiveness at Huntington Bank at the time) and Rob (a professor at University of South Carolina).

Huntington Bank's VOICE Colleague Engagement Survey

William Shepherd
The Wendy's Company

Robert E. Ployhart
University of South Carolina

Headquartered in Columbus, Ohio, Huntington Bancshares Incorporated is a regional bank holding company with more than 700 branches across the Midwest and $69 in billion assets. The Huntington National Bank, founded in 1866, and its affiliates provide services in commercial, small business, and consumer banking; mortgage banking; treasury management; wealth management; brokerage; insurance; and trust (HRM Impact Award, n.d.a).

Project Summary – The VOICE Survey

In 2010, Huntington National Bank began a new consumer brand called "Welcome." Critical to the brand's success was having a highly engaged and stable workforce that would deliver and execute the brand message to customers. To support this effort, Huntington Bank wanted to

assess the impact of culture, engagement, attitudes, and turnover on organizational performance metrics. The VOICE (Voice of Individual Colleague Engagement) employee opinion survey program was designed and launch in 2010 to meet this need.

The online survey is administered annually and includes items on the organization's values and issues of engagement, career development, leadership, work–life balance, risk management, and brand strategy. Results are used by senior leaders and managers to set corporate objectives and department goals, progress against goals are tracked, and results are used to target actions designed to enhance employee engagement ("Huntington Bank", n.d.c).

At the outset of the program, Huntington Bank engaged CEB Valtera, including SIOP members **Holly Lam** and **Bill Macey**, to help manage the confidential linking of employee survey data to individual and organizational outcomes that allowed for the conducting of longitudinal research. The survey program was cutting edge in the use of text analytics to identify key issues and themes within thousands of employees' comments. CEB Valtera was also able to compile data on two benchmarks, allowing Huntington Bank to reference its performance against other peer and "most admired" firms.

What Resulted From These Efforts?

Through this longitudinal research Huntington Bank was able to identify seven specific factors that were related to the risk of employee turnover. A "Turnover Index" was used to create a heat map showing which branch locations were at risk for different levels of collective turnover. This led to organizational efforts to enhance employee management at high-risk locations.

Research also led to the quantifying of turnover impact. Turnover events were found to have immediate and negative impacts on performance. A two-phase longitudinal model of collective turnover was developed that explained how and why an individual-level turnover event impacted collective performance, including how long it would take branches to recover to prior performance levels.

Huntington Bank was also able to examine and establish the relationship between employee attitudes and business outcomes, such as job and branch performance. For example, employees with the highest engagement and satisfaction scores tended to be the most highly evaluated on reviews, and branches with higher levels of engagement tended to outperform others.

In What Ways Did The Initiative Reflect Sound Science and Practice?

Several best practices in I-O psychology were incorporated into the project, such as using theoretical and scientific foundations, leveraging research partnerships, and linking survey responses to individual and organizational outcomes.

Incorporating theoretical foundations. Several theoretical frameworks served as the basis for research in this project. These include the value-profit chain (Heskett, Sasser, & Schlesinger,

1997), emotional contagion (Hatfield, Cacioppo, & Rapson, 1994), emotional labor (Hochschild, 1983), and collective turnover (Hausknecht & Trevor, 2011). These frameworks guided the way relationships between variables were examined; for example, how manager attitudes impacted employees' emotions, behaviors, and attitudes, which in turn impacted customer service attitudes, which then impacted unit and organizational performance.

Using evidence-based research. Research on the topic of collective turnover was used to help guide some of the research conducted in this initiative. Recent meta-analytic research on collective turnover, one of the key outcomes of interest to Huntington Bank, has examined its antecedents and outcomes (Hancock, Allen, Bosco, McDaniel, & Pierce, 2013; Heavey, Holwerda, & Hausknecht, 2013; Park & Shaw, 2013), demonstrating its impact on unit performance (e.g., Huselid, 1995).

Leveraging research partnerships. Huntington Bank established research partnerships with the University of South Carolina (USC) and Michigan State University (MSU). With MSU, employees' intentions to use, and the actual use of, a wellness program were analyzed using Fishbein and Ajzen's "theory of planned behavior," including measuring employees' attitudes at multiple time periods. With USC, longitudinal research was conducted examining linkages among attitudes, turnover, and organizational performance. This research was presented to leadership and ultimately led to the two-phase model of turnover (Hale, Ployhart, & Shepherd, 2015). All together, this work produced five papers and symposia presentations at SIOP conferences, three Academy of Management (AOM) conference papers, one AOM journal publication, one *I-O Perspectives* journal publication, and an external grant from SHRM (Titles of these can be found in the Appendix).

Let's now turn our attention to the specific research partnership between Huntington Bank and USC, using the excellent insights provided by Will and Rob.

What Was the Focus of This Research-Practice Initiative?

The focus of this work was in trying to connect Huntington's attitude survey results with various HR, financial, and strategic/branch-level outcomes not often looked at in prior linkage research and to look at those relationships over time. Will's interest in wanting to publish research based on Huntington Bank's program led him to reach out to academics such as Rob and **Ann Marie Ryan**, professor at Michigan State University, with whom he had worked together in the past. Rob's research experience in connecting HR and I-O activities to strategically oriented business and market outcomes, for example, was a good fit for Huntington Bank's needs. This fit was key, as what started out as looking at simple relationships became a more complex and longer-term process when the relationships were found to be influenced by mediating mechanisms. This required a more "complex…modeling approach" and the involvement of other groups within the organization.

What Were Some of the Key Issues to Work Through When Incorporating a Scientific, Evidence-Based Approach in This Initiative?

One has to believe in it because it takes lots of time and effort. "Managers are concerned with business outcomes they are accountable for," Rob noted, so there are priorities to manage and there is not a great deal of time to work with issues not directly related to the business. The world did not stand still in this work—the survey was refined, metrics were tweaked, all in real time—so being timely with analysis and results was important.

Also, there were multiple types of data, from multiple groups internal and external to the organization (e.g., vendors; human resources; marketing; operations), that had not been linked before. There were different assumptions in the data that hadn't been questioned before and various data security and NDA issues to work through in order to obtain and work with the data.

To work through these issues, one has to remain committed to the potential impact of the research and applied project. Knowing that it will be an effortful process is the first step to success. As the project evolves, all parties need to show the curiosity and flexibility to explore new issues and questions that emerge when analyzing data—it is from this that new insights are reached. As Rob mentioned, having organizational commitment allowed Will and him to explore some questions that the company may not have considered or had the time to probe and that having all groups work together and devote the extra time and effort to obtain and understand the data led to more definitive conclusions and better decisions.

What Factors Contributed to an Effective Science–Practice Partnership?

Knowledgeable colleagues with common interests. It is important to involve colleagues that are knowledgeable within their scientific or practice fields and who have an interest in the I-O area. Will's support for the research mission, his goal to publish, and his desire to stay involved in research paired well with the research knowledge and publication records of colleagues such as Rob. As Will stated, "pick somebody really good at what they do."

Complementary skillsets. It is also beneficial for each involved party to have competencies or experience that complement the other. For example, in the Huntington Bank project, Will was able to provide direction and leverage his knowledge of the bank's resources, while Rob was able to leverage his knowledge of the customer service literature and his extensive publishing background, to provide further explanation to results and help produce publishable work. This was done in a collaborative manner—not one informing the other, but both parties working together.

Collaboration. It is important for scientists and practitioners to identify and work with colleagues that they like, know, and trust. This allows for the sharing and leveraging of insights, skills, and experiences that leads to effective collaborations and integration of science and practice. Some research–practice initiatives can last multiple years, during which time they can experience setbacks, ups and down, and either party can become more or less busy thus impacting the pace at which projects are implemented. Having trust that all stakeholders will deliver regardless of setbacks is critical.

Shared values. Having a common understanding and commitment to the value of research and

the core principles and best practices of I-O psychology is critical to ensure rigorous, sound applied work and research. This allows scientists and practitioners to appreciate each other's perspectives, "to have sympathy with what is going on in both worlds," and to work in collaboration with organizational members who are outside of I-O and may place different priorities on data analysis and research. As Rob noted, "the research process may move slowly at times so practice can help inform and help keep us going forward."

What Guidance Would You Give for Practitioners and Scientists Who Want to Partner on Applied Projects and Research?

Maintain a balanced identity. Get out there and put yourself in the other person's shoes. An I-O psychologist should never be too far removed from maintaining a balanced identity between the scientist and practitioner aspects of the field, rather than viewing oneself as one or the other. As Rob succinctly put it, "We are unique because we are scientist–practitioners. When we maintain that, good things happen."

Engage with others. "Always try to engage with the other side." If you are primarily an academic, engage with practitioners. For example, get involved in practitioner discussions, industry-focused sessions, and joint practitioner–scientist presentations at conferences to remain aware of practical issues and questions that might lead to impactful areas of study. Actively work to get involved in applied projects that can lead to large-scale data collection efforts across multiple organizations. Similarly, if you are a practitioner, engage with those in academia, keep in touch with the areas of research for different scientists to identify who may be able to provide assistance with conducting organizational research.

Find colleagues who value science and practice. Practitioners who may not have time to conduct research but who value science and want to stay involved in research can work effectively with scientists who understand the issues and challenges that come with practicing I-O. Having a strong network can help to provide such resources, and being willing to engage with the other person's perspective can assist with effective science–practice collaboration.

Plan for the long term. Given the effort, time, and resources needed to take on large-scale applied research, it is advantageous to plot out the long-term research program up front. For researchers, get details/NDAs/commitments up front with respect to publishing to ensure the efficient use of time. Think ahead about the constructs and items you want to measure, the outcomes you want to include, and so on, not only in the near term but also to set up future research. As Will indicates, "I knew when we did our first survey that we wanted to include items about wellness programs because we were going to want to predict wellness participation a year later."

Build support. Rob credits the success of this work to Will's efforts to build internal and external support. Aligning the proposed research with the needs and interests of internal groups helped to build support. Working with Huntington's chief risk officer, for example, helped to develop relevant survey items. When looking to explain some results, the Marketing group was involved

to provide insights into customer-related issues and mediating variables. This also included securing the assistance of external vendors such as CEB Valtera and colleagues such as Rob and Ann Marie, whose interests and values regarding evidence-based work were aligned.

Conclusions

In summary, the Huntington National Bank VOICE Survey project represents an award winning approach to using evidence-based I-O practices to achieve applied results and research. The project brought about a win–win for all individuals involved—a great deal was learned scientifically and the bank was able to take action based on the results. As was summarized by Rob, "the research and practice parts need to be fully appreciated—either one by itself is not better than the other—it is the interaction between the two" that matters. The grounding of the work in theoretical background, use of I-O best practices, integration of established research evidence, and research and applied partnerships serve as a great example of science and practice integration.

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Appendix

Publications

Hale, D. Jr., Ployhart, R.E., & Shepherd, W.J. (2016). A two-phase longitudinal model of a turnover event: Disruption, recovery rates, and moderators of collective performance. *Academy of Management Journal, 59*, 906-929.

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Conference Presentations

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Hale, D., Shepherd, W. J., & Ployhart, R. E. (2014, Aug.). *The customer-employee-profit chain: Customer-employee contagion and the impact of customer perception*. Symposium presented at the annual conference of the Academy of Management, Philadelphia, PA.

Hale, D. Jr., Ployhart, R. E., & Shepherd, WJ. (2013, Aug.). *A two-staged longitudinal model of collective turnover on unit-level performance*. Paper presented at the annual meeting of the Academy of Management, Orlando, FL.

Shepherd, W. J. (2013,). *Applications of employee value propositions: Delivering what matters most*. Paper presented at the Society for Industrial and Organizational Psychology conference, Houston.

Shepherd, W.J. (2013, April). *Developing an Employment Value Proposition: Discovering what matters most*. Paper presented at the 28th Annual Conference of the Society for Industrial and Organizational Psychology, Houston, TX.

Ployhart, R. E., Shepherd, W.J., & Hale, D. (2012, Aug.). *The antecedent effects of star employees on developing customer resources*. Symposium presented at the annual conference of the Academy of Management, Boston, MA.

Hale, D., Ployhart, R.E., and Shepherd, W.J. (2012, April). *Customer advocacy in service contexts: Implications for unit effectiveness.* Paper presented at the 27th Annual Conference of the Society for Industrial and Organizational Psychology, San Diego, CA.

Okyere, K.A., Ployhart, R.E., Hale, D., Shepherd, W.J. (2012, April). *Consequences of managerial attitudes on collective turnover and unit performance*. Paper presented at the 27th Annual Conference of the Society for Industrial and Organizational Psychology, San Diego, CA.

Grants

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Calling Potential Contributors to "The Bridge: Connecting Science and Practice"

As outlined in [Poteet, Zugec, and Wallace (2016)](#), the *TIP* Editorial Board and Professional Practice Committee continue to have oversight and review responsibility for this new column. We invite interested potential contributors to contact us directly with ideas for columns. If you are interested in contributing, please contact either Lynda (lynda.zugec@theworkforceconsultants.com) or Craig at (craig.wallace@okstate.edu).

2017 Technology Trends: Are I-O Psychologists Prepared?

Tiffany Poeppelman
LinkedIn

Evan Sinar
DDI

We are delighted to be back writing The Modern App after a short break and welcoming its new coauthor: Evan Sinar! During the SIOP 2016 closing plenary, SIOP President **Mort McPhail** challenged I-O with a call to action: "Our science and its application has been shown to be consistently innovative: We need to focus the attention on scanning and communicating about the horizon and identify the roadblocks to our preparation." We as I-O psychologists need to stay ahead of the trends that are redefining the way we generate high-impact research, provide evidence-based recommendations to internal and external clients, and engage and connect on social channels. Accordingly, our Modern App—short for the modern application of social media and technology in the workplace—vision and goals are to:

- Highlight guiding technology principles that are being adopted by practitioners
- Raise awareness of cutting-edge research from academics and research agencies
- Identify technology-rooted gaps between research and practice to ensure a clear bridge for advancement

Evan and I we will evolve this column by:
1. Actively working with technology-savvy research partners across SIOP to evolve our understanding of the opportunities that can stimulate future research and fill gaps in our knowledge of emerging tools. If you are one of those partners, please reach out to us directly on Twitter (Tiffany and Evan) or LinkedIn (Tiffany and Evan).
2. Cross-referencing and seeking opportunities to complement and supplement the work of other regular *TIP* columnists such as **Richard Landers** and his Crash Course series, and The Bridge: Connecting Science and Practice by **Mark Poteet, Craig Wallace,** and **Lynda Zugec.**
3. Drawing awareness to and implications from trends that will shape the future workplace, through a regular section called Tech Avenue sharing current industry reports and what they mean for I-O; the first of these sections follows below.

In October 2016, Gartner released its advisory report, "Gartner's Top 10 Strategic Technology Trends for 2017," to bring attention to emerging and disruptive technologies for a broad business audience. We feel that SIOP members can use these trends as one barometer of possible workplace futures. As you'll see below, our field is intersecting with a few of these trends already, while many others are still beyond our horizon. In order to gauge current I-O coverage of the technology areas in the report, we searched for the trend keywords (e.g., "artificial intelligence", "virtual reality", "blockchain") in six top I-O psychology and management journals (Nadler et al., 2015): *Academy of Management Journal*, J*ournal of Applied Psychology*, *Journal of Business and Psychology*, *Organizational Behavior and Human Decision Processes*, *Journal of Management*, and *Personnel Psychology.* We also searched programs from SIOP's Annual Conferences and Leading Edge Consortia (LEC) between 2014 and 2016.

We review the trends by first providing Gartner's verbatim definition (to describe these trends as a non-I-O audience views them). We then cite relevant I-O publications and presentations (where available) and propose questions we can ask and answer to deepen organizational understanding and successful incorporation of the trend into the workplace.

We've grouped the summaries by the same three categories as Gartner: Intelligent, Digital, and Mesh.

Gartner "Intelligent" Category Trends

First, three trends that center around the creation of intelligent, autonomous systems, well-known versions of which include IBM's Watson and the recommendation engines of Pandora, Netflix, and Amazon.

Trend #1: Artificial Intelligence and Advanced Machine Learning

What it is: "Artificial intelligence (AI) and advanced machine learning (ML) are composed of many technologies and techniques (e.g., deep learning, neural networks, natural-language processing [NLP]). The more advanced techniques move beyond traditional rule-based algorithms to create systems that understand, learn, predict, adapt and potentially operate autonomously" (Panetta, 2016).

Coverage by I-O and management: Of the Gartner trends, machine learning has been covered most by I-O publications and conferences, albeit typically as a subtopic within a larger discussion of big data or data science. Notable articles include George, Haas, & Pentland (2014) and George, Osinga, Lavie, & Scott (2016). Machine learning has been featured in several SIOP sessions (e.g.,Illingworth, 2016; Tonidandel, 2014) and LEC presentations (Alexander & Van Buren,

2016; Mondragon, 2016; Taylor, 2016; Putka, 2016), as well as in Tonidandel, King, & Cortina's 2015 book, "Big Data at Work."

Key questions: The most revealing word from the definition above is "autonomously." As we continue to adopt machine learning techniques for workplace data, we must do so while considering that the ultimate goal for many organizations is independent operation of the employee decision algorithms. We must target and tackle questions such as:
- How can construct frameworks be created and applied to ground any observed relationships in, if not psychological theory, explanatory clarity?
- What approaches are effective for communicating the "black box" nature of AI and ML models to those affected by their outcomes to maintain some semblance of procedural and distributive justice?
- What form and documentation of validity evidence will be produced to justify autonomous use of AI- and ML-based systems for personnel decision making?

Trend #2: Intelligent Apps

What it is: "Intelligent apps such as Virtual Personalized Assistants (VPAs) perform some of the functions of a human assistant making everyday tasks easier (by prioritizing emails, for example), and its users more effective (by highlighting the most important content and interactions)" (Panetta, 2016).

Coverage by I-O and management: No direct coverage in the sources reviewed.

Key questions: The most intriguing implications of this trend are for work itself, as jobs become upskilled due to automation for more repeatable tasks, and as technology steps in to aid employees in processing information:
- How do these forces change the relative influences of various personal attributes on job effectiveness: cognitive, personality, and values?
- What is the interaction between individual differences (including protected group status) and the productivity "boost" projected to occur through use of the technology?
- How must performance and development systems be recalibrated to account for technology influences on productivity, isolating the true impact of the employee

Trend #3: Intelligent Things (Internet of Things)

What it is: "Intelligent things refer to physical things that go beyond the execution of rigid programing models to exploit applied AI and machine learning to deliver advanced behaviors and interact more naturally with their surroundings and with people" (Panetta, 2016).

Coverage by I-O and management: No direct coverage in the sources reviewed.

Key questions: Internet of Things devices will vastly will increase the scope and scale of data used to inform workplace decisions. Although ideally these data are with full awareness of relevant

psychometric and ethical considerations, that may prove to be the minority of situations. We can shape discussion of this topic through questions such as:

- How do we extend our theories and research models to incorporate new data available through Internet of Things devices, which may bear little resemblance to the survey and assessment-centric sources that have historically dominated our field?
- How should employers communicate about data gathered from and about employees to elicit perceptions of developmental value rather than cynicism, violated trust, and compromised ethics?
- What will be the effects of an "always on" state of awareness and tracking of employee actions on stress and health outcomes? What individual differences and organizational interventions will moderate these effects?

Gartner's "Digital" Category Trends

Gartner's second set of trends deals with the shift toward a near-mirror match of the physical and digital worlds.

Trend #4: Virtual and Augmented Reality

What it is: "Immersive technologies, such as virtual reality (VR) and augmented reality (AR), transform the way individuals interact with one another and with software systems […] a flow of information that comes to the user as hyper personalized and relevant apps and services" (Panetta, 2016).

Coverage by I-O and management: Within the sources reviewed, several SIOP sessions discussed virtual reality's use for employee training (e.g., Howard et al., 2015, Howard et al, 2016a, Howard et al., 2016b, Lee et al., 2016).

Key questions:
- Which interpersonal constructs, for example, empathy and extraversion, translate to virtual interactions among employees and with customers?
- What contaminating and extraneous factors occur as a result of these devices to mask true psychological constructs?
- How will the projected "flow of information" impact employee information processes and required cognitive and noncognitive skills? For those with less comfort engaging with this data firehose, how will their job effectiveness—and career prospects—change as a result?
- How must legally relevant principles of cross-employee consistency be maintained—for performance evaluation, promotion decision making, and compensation, for example—in an environment where each employee's experiences are unique?

Trend #5: Digital Twin

What it is: "A digital twin is a dynamic software model of a physical thing or system that relies on sensor data to understand its state, respond to changes, improve operations and add value. Digi-

tal twins include a combination of metadata (for example, classification, composition and structure), condition or state (for example, location and temperature), event data (for example, time series), and analytics (for example, algorithms and rules)." (Panetta, 2016).

Coverage by I-O and management: No direct coverage in the sources reviewed. However, this topic was discussed briefly in Allen Kamin's 2016 LEC session, where he proposed that we are nearing the point where various ambient datapoints about employees (e.g., from an HRIS, online profiles, wearable devices, and social network analyses) will be integrated to produce a parallel, digital-only model of the individuals.

Key questions: We feel that the digital twin concept will eventually extend to people as well as things, via residual data providing information about employee actions, relationships, and health. This trajectory raises questions such as:
- What is the fundamental validity of a "digital twin" model of employee behavior, bounded by reliability and comprehensiveness of the measures used to create the twin?
- How will the concept of employee development be retained, or bolstered, in an environment of constant reevaluations against an increasingly deterministic outcome?
- How do various digital twins of employees interact in group systems, such as teams, and can the results of interactions be accurately modeled to generate predictions?

Trend #6: Blockchain and Distributed Ledgers

What it is: "Blockchain is a type of distributed ledger in which value exchange transactions are sequentially grouped into blocks. Each block is chained to the previous block and recorded across a peer-to-peer network, using cryptographic trust and assurance mechanisms." (Panetta, 2016).

Coverage by I-O and management: No direct coverage in the sources reviewed.

Key questions: Blockchain is already beginning to influence HR information management, and we can see scenarios where this trend could extend to be a disruptive workplace force. Consider blockchain as an immense, highly secure method for verifying employee identities, experiences, and certifications—that is, as "blocks" exchanged across a "chain" of computer systems. This will raise questions such as:

- What qualifications and experience structures will serve effectively as a mutually exclusive, collectively exhaustive groundwork for a blockchain approach?
- Will increased consistency and presumably, accuracy of this information push employee qualifications beyond their current middling validity compared to other hiring tools?
- In a vast, cross-organizational system housing this information, who bears responsibility for establishing job-relatedness of the variables captured therein, and how can organizations confidently incorporate these data into their selection processes?

Gartner "Mesh" Category Trends

Gartner's final four trends fall under the grouping, "Mesh," referring to the "dynamic connection of people, processes, things and services supporting intelligent digital ecosystems" (Panetta, 2016). Examples of these include employee-facing chatbots such as those being developed by Talla. These trends share two characteristics: no direct coverage in I-O forums, and serving as broad rather than narrow workplace context; as a result, we group key questions together into one list below.

Trend #7: Conversational Systems

 "The current focus for conversational interfaces is focused on chatbots and microphone-enabled devices (e.g., speakers smartphones, tablets, PCs, automobiles). [...] an expanding set of endpoints people use to access applications and information, or interact with people, social communities, governments, and businesses" (Panetta, 2016).

Trend #8: Mesh App and Service Architecture

"In the mesh app and service architecture, mobile apps, web apps, desktop apps and IoT apps link to a broad mesh of back-end services to create what users view as an "application." (Panetta, 2016).

Trend #9: Digital Technology Platforms

"Digital technology platforms provide the basic building blocks for a digital business [...] five major focal points to enable the new capabilities and business models of digital business — information systems, customer experience, analytics and intelligence, the IoT, and business ecosystems (Panetta, 2016).

Trend #10: Adaptive Security Architecture

"The intelligent digital mesh and related digital technology platforms and application architectures create an ever-more-complex world for security. [...] new vulnerability areas and often requiring new remediation tools and processes that must be factored into IoT platform efforts" (Panetta, 2016).

Key questions:
- How can our research design expertise be used to produce frameworks for efficiently aggregating data about employees, to enable use of these data fairly, ethically, and predictively?
- What new or adapted skills must employees possess to enable rather than add risk to (e.g., for security reasons) further applications of technology in the workplace?
- What is the new role of a leader within these technology-saturated environments as stewards of data use: What information is being gathered about whom, and for what purpose?

- At what point does the technology itself become an "employee" for the purposes of falling under similar rules and expectations for productivity, customer service, teamwork, adaptability, and continuous learning?
- If "digital twins" come to pass, is it IT or I-O expertise which will steer them toward optimal performance and productivity?
- Does the influence of technology expand or narrow the scope of employee constructs in which we'll be expected to provide evidence-rooted recommendations? How much of our current know-how about employee behavior needs to be overhauled?

A final question looking across the full set of technology trends from this report: Given meager coverage of these topic in our current knowledge base, do we have a realistic path forward—robust enough and fast enough—to provide the prescriptions the workplace needs from us?

For upcoming issues, we intend to explore a host of notable hot topics at greater length such as the Internet of Things (IoT), open source technologies, and further subtopics of data science. For topics that involve tools and platforms, we will explore how they work and their benefits, and we will aim to cut across disciplines to ensure stronger collaboration and deeper partnerships for the long-term growth of our field.

Of course, we always welcome topic recommendations for future issues! If you or anyone you know would like us to highlight or explore a technology, tool, or trend, please contact us with your suggestions. Additionally, we are always looking for partners if you'd like to collaborate, either as an interviewed expert on a topic you're focused on or as a coauthor for a future column.

Contact us on LinkedIn: Tiffany Poeppelman & Evan Sinar

Contact us on Twitter: @TRPoeppelman, & @EvanSinar

Below is the full list and timeline of our The Modern App columns over the past 3 years:

- The Modern App hits the press! - July 2013
- Big Data Technologies- October 2013
- Personal Branding - Jan 2014
- Multidisciplinary Teams - April 2014
- Social Media & Tech Change Recruitment - July 2014
- Video-Based Technology - Oct 2014
- Virtual Workplaces - Jan 2015
- Adaptive Training - April 2015
- A Year in Review - July 2015
- Internet Testing - Oct 2015
- Performance Management Tech for Organizational Coaching - Jan 2016

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Crash Course in I-O Technology

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This issue, I'll be exploring a concept you've undoubtedly heard of but probably don't know much about: machine learning. To many I-O psychologists, the term *machine learning* describes some complex, unknown, and potentially unknowable "black box" analytic procedures. You often hear the term "data mining" thrown around in a dismissive fashion. But I hope after you read this article, you'll realize that the term *machine learning* in fact refers to a variety of analytic techniques that are either identical to or extensions of techniques that most I-O psychologists already know. In fact, as you dig into machine learning, you start to realize that there is an entire parallel vocabulary to refer to many concepts that I-Os already use.

One of the most common terms you'll come across in machine learning is *training dataset* (or *training set*). My initial approach to understand the term was to deconstruct it: "I know what a dataset is, so what makes it a *training* type of dataset?" The answer to that question? It is a dataset that contains both predictors and outcomes. In I-O terms, you would call this *a dataset*. In fact, the reason I-O datasets are called *training datasets* by data scientists is in order to distinguish them from two datasets we don't normally have, *test datasets* and *validation datasets*, which along with the training set are typically randomly selected cases from a larger source dataset.

Let's work through an example. Imagine we're conducting a simple concurrent validation study, so we collect a dataset containing personality predictors and a job performance outcome. In I-O, we might then run an ordinary least squares regression analysis to derive some regression weights. At that point, we'd essentially be finished, because we could then use those regression weights to predict future job performance of anyone that applies for the job. But a data scientist would likely have split the original dataset into three pieces, with roughly 50% of cases in the training dataset, 25% in the test dataset, and 25% in the validation dataset. That way, a model is built on the training dataset using a particular algorithm, the model is tested and tweaked on the test dataset, and then it is finally applied to the validation dataset as a way of verifying that the tweaked model was not overfitted (i.e., took advantage of chance variation to inflate its apparent accuracy). As I-Os, we might use terms like *split-half cross-validation* to describe this sort of process, but we would probably simply call everything with variables and cases "a dataset."

This sort of disconnect in language is quite common and makes machine learning seem a lot more confusing than it actually should be. For example, another unnecessarily confusing term is *algorithm*. Fundamentally, an algorithm is a highly specific step-by-step process that turns input into output. This is actually a familiar concept. Let's say for example that I want a computer program to add all the numbers in a set together and then divide that sum by the count of those numbers. This algorithm would process a dataset containing [3, 4, 6] and output 4.333. As an I-O, you would probably call this process "calculating a mean." But to a computer scientist, this is

a step-by-step process that they must instruct a computer to follow: an algorithm. If a computer executes a regression analysis, it is executing an algorithm; or more specifically, although ordinary least squares regression is a statistical procedure, the specific way a computer goes about doing it is an algorithm. Thus, every statistical approach SPSS can do involves the execution of an algorithm, from calculating means to modeling in AMOS. So the key to understanding machine learning is to realize that there are many algorithms available that you've never heard of before, that try to convert datasets into meaningful information in ways that you've not previously considered, and that may in fact produce more useful, more practical, or more accurate answers than any of the algorithms you have now. Right now you're using principal components analysis (algorithm) or maximum likelihood (algorithm) to determine the factor structure of variables in your dataset, but perhaps you should consider isomap or spectral embedding (algorithms with funny names) instead?

So if there are more algorithms available than what I use now, what are they? Unfortunately for data science dabblers like us, that's a moving target. New algorithms are being developed all the time. For that reason, traditional academic journals are not particularly useful to understanding data science, because the publication process is simply too slow, a problem we see in I-O in only limited contexts. Even by the time conference proceedings are published, sometimes less than 3 months after submission, the knowledge they contain may be out of date. So if you want to stay truly current on machine learning, you need to follow not only conferences but also online discussion boards and comment sections in online code repositories.

Fortunately for your sanity, staying completely current about machine learning is not necessary unless you're trying to create a self-driving car. As an I-O, if you need machine learning, you probably want to stick to "tried and true" methods, and that list isn't terribly long. One general distinction among such machine learning algorithms you should know is between *supervised* and *unsupervised* algorithms. In *supervised learning*, the algorithm has something specific it is trying to predict accurately. Thus, because it is predicting a known criterion from predictors, ordinary least squares regression is a supervised machine learning algorithm. It's called "learning" because the computer can develop the regression formula on its own and then use the formula it learned to predict new values in new datasets, and it's called "supervised" because you're telling it the right answers, at least initially. In *unsupervised learning*, the algorithm is trying to detect patterns and develop meaning automatically. Thus, because you don't know the extracted components ahead of time, principal components analysis is an unsupervised machine learning algorithm. Same analyses, different words; yet I-O only scratches the surface of both types, because there are hundreds of machine learning algorithms available.

To help people find the particular algorithm they need for a particular application, the web application shown in Figure 1 is commonly shared in the same spirit as those "statistical test decision trees" you see at the end of statistics textbooks and provides the most common and fundamental algorithms used in machine learning. It doesn't have everything you might need, but it does include the ones most people need. If you decided to learn about machine learning in Python, you could even click on each green box to learn about how to execute it.
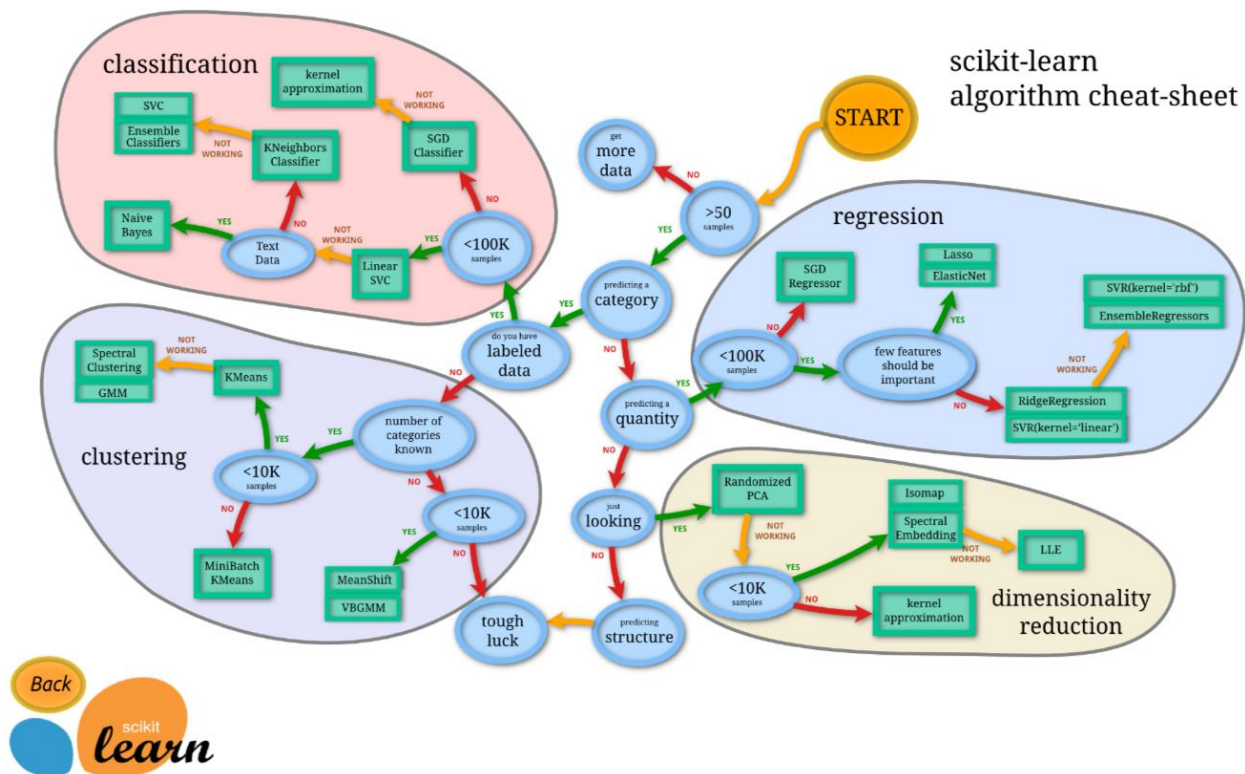
Figure 1. A screenshot of the scikit-learn algorithm cheat sheet. Software available [here](#).

As you can see, one way to categorize machine learning algorithms is by their four most basic purposes in data science: regression, classification, clustering, and dimension reduction. These should all be pretty familiar. Regression-type algorithms involve the prediction of continuous variables from other continuous variables, a cousin of the ordinary least squares regression we know. Classification algorithms involve the prediction of nominal variables from continuous variables, a cousin of logistic regression, although many algorithms enable any number of categories in the criterion. Clustering algorithms have the greatest overlap with cluster analytic techniques we already use; you'll even find KMeans clustering in SPSS. Dimensionality reduction algorithms involve the extraction of patterns of responses among multiple variables. In fact, the "PCA" you see above is *principal components analysis,* the algorithm you've probably already used for factor analysis many times before. In short, these algorithms are *not* altogether different from the algorithms you already know; they're just "improved."

So what does "improved" mean? Pieces of that diagram that might help you answer this question are the repeated questions asking if *N* > 10,000 or *N* > 100,000. Those are rather large sample sizes for I-O, and the high required sample sizes are a key clue to understanding why these algorithms were developed and are different from the ones we already use. To illustrate, let's consider a popular machine learning application area, natural language processing, which refers to the use of machine learning to predict quantitative variables from text data. The simplest types of natural language processing involve the breakdown of text into its component parts (this is part of a procedure called *preprocessing*) and then submission of the resulting data into a regression-type algorithm. There are many specific natural language processing algorithms, so let's focus on

an example of a very simple one. In this very simple algorithm applied to a project predicting job satisfaction from an open-ended job satisfaction question, the presence or absence of each word in all text responses is coded as a 0 or 1. So for example, if Person 1 says "I love my job," then four variables are created (i.e., *I*, *love*, *my*, *job*), all with the value 1. If Person 2 says, "I hate my job," then one additional variable is created for the new *hate* variable, but Person 2 has a 1 for *hate* and 0 for *love* whereas Person 1 has a 1 for *love* but a 0 for *hate*. Thus, an entire dataset can be constructed from text data. If across all 1,500 surveys there are 2,000 different words used, you thus create a 2,001 variable database: 2,000 dummy-coded word variables and 1 outcome.

If you remember your graduate statistics class, you will recognize the problem immediately. It's probably not a good idea to predict a DV from 2,001 predictors (and that doesn't even include interactions!) with only 1,500 cases, especially with the statistical approaches common to I-O. But if you have a *hundred thousand cases*, suddenly this model works a little better, even if you're not quite sure why.

Of course, this is significant simplification. As I mentioned earlier, algorithms are being improved all the time, so modern natural language processing algorithms also may consider word order, sentence structure, word sentiment, synonyms/antonyms, parts of speech, and so forth, which of course means *even more variables*. This is why the algorithms that are popular in data science tend to take advantage of *big data*, at least if you want your results to be replicable, and why many (although not all) big data applications really are fundamentally different from the theory-driven analytic approaches currently common to I-O psychology (see Campion, Campion, Campion, and Reider [in press] for an example of how natural language processing can be applied to I-O problems). Even ordinary regression is not quite the same, as data scientists will often include additional optimizations (commonly called *tuning parameters*) to improve model fit and/or prediction post-hoc (which is why cross-validating from a distinct training dataset to validation and test datasets is so important).

The willingness to consider this sort of "add-on" procedure represents an often underlying point of contention when I-Os and data scientists try to work together, even if they don't realize it at the time. Computer scientists and data scientists don't think about *theory* the way I-Os do and often consider a lot of what we call *theory* to be a distraction at best and a waste of time at worst. For example, we might think of theory surrounding employee engagement and job performance, then use psychometrics to guide our decisions regarding the selection of appropriate measures of the particular variables we're interested in, and then create a research study to test these relationships in a carefully selected sample. In the context of natural language processing, theory instead addresses the question, "What is the most efficient way to predict other variables from text data?" The researchers working on natural language processing don't particularly care what the other variables actually are or represent any more than you care about how to calculate probabilities from the cumulative distribution function of the normal curve, despite doing exactly that every time you ask for a *p*-value from SPSS or R. It's just not part of their job description. Instead, they refer to their own theory and conclude, "adding well-considered optimization procedures after regression increases prediction parsimoniously." It's not that they don't know why a particu-

lar optimization procedure helped prediction; it's that they don't (usually) care. Or more specifically, they don't care unless that procedure can be changed to improve prediction further (i.e., an extension of theory). One way to test your own position on this is to answer the following question: Do we need a theory describing how and why every word in the English language relates to every other word before we try to extract meaning from text?

So all of that means for I-Os that we don't necessarily need to know all of the mathematics underlying a machine learning algorithm to understand how that algorithm works in a general sense and make a judgment as to whether or not to trust it with a particular application. The more you know about an algorithm, the less likely it is that you will make a silly mistake and overfit your model without realizing it, but that is not unique to machine learning. Similarly, knowing the formulas and having a working understanding of how ordinary least squares regression works helps avoid inappropriate, inaccurate regression modeling. But critically, both in machine learning and in all of our statistical procedures, there is a distinct point of diminishing returns.

For machine learning, you really just need to know *enough* to know when you're in over your head. So if you're learning machine learning to apply the concepts you learn to a real project, always remember that there is a point in the distance where it will be time to give up and seek a professional data scientist with a PhD in mathematics. But there's quite a lot you can do yourself before you get to that point, if you ever do.

Let's See It in Action

So, normally in this section, I would show you a video of myself using the technology, but I decided not to do that for machine learning, because no one wants to watch a video of me writing code for 10 minutes. Instead, I'll show you a couple of examples in R, which you can execute yourself, demonstrating how to execute machine learning algorithms. If you haven't used R before, you might consider checking out my previous [Crash Course on R](#). But to be honest, if you're just getting into machine learning and don't know R already, you're better off learning Python instead of R for a few reasons, most importantly (a) because Python has a much easier time handling very large datasets and (b) because Python is a much better designed as a programming language than R, which makes it easier to learn and apply. But because many more I-Os know R than Python, I'll stick to R for this demonstration.

I'm first going to run a simple ordinary least squares regression analysis on a small dataset.

```
data(randu)
regress_model <- lm(formula = y ~ x + z, data = randu)
summary(regress_model)
```

If you've used R before, this is easy. The first line is a command to draw up the "randu" dataset from Rs built-in library of datasets. This creates a data frame called "randu" containing a 400-case dataset with three variables: x, y, and z. These variables were each pseudorandomly created, so we won't expect to find any relationships between them.

The second line invokes the linear model function to execute an ordinary least squares multiple regression analysis, y on x and z, and stores it in a new variable called *regress_model*.

The third line prints up summary statistics about the model. We'll focus on this particular output:

```
Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.54092    0.03897  13.882   <2e-16 ***
x           -0.04633    0.05166  -0.897     0.37
z           -0.06336    0.05276  -1.201     0.23
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.2936 on 397 degrees of freedom
Multiple R-squared:  0.005961,   Adjusted R-squared:  0.000953
F-statistic:  1.19 on 2 and 397 DF,  p-value: 0.3052
```

From that output, we can conclude that y' = 0.541 - 0.046x − 0.063z, and that R^2 is a stunning .006. Now let's try the same thing using a machine learning toolkit called *caret*.

```
install.packages("caret")
library(caret)
trained_model <- train(y ~ x + z, randu, method="lm")
summary(trained_model)
```

Here, the first line installs the *caret* package if you don't have it already, and the second line loads it into memory. The third line actually runs a function from caret called *train*, which as you might guess is used to train a model and stores the result in a variable called *trained_model*. We specify the same regression model as before (y ~ x), the dataset (*randu*), and the machine learning algorithm to apply (in this case, the same linear modeling algorithm we used before). The fourth line brings up a summary that looks awfully familiar:

```
Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.54092    0.03897  13.882   <2e-16 ***
x           -0.04633    0.05166  -0.897     0.37
z           -0.06336    0.05276  -1.201     0.23
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.2936 on 397 degrees of freedom
Multiple R-squared:  0.005961,   Adjusted R-squared:  0.000953
F-statistic:  1.19 on 2 and 397 DF,  p-value: 0.3052
```

Congrats! A minute ago you were an ordinary I-O psychologist running vanilla ordinary least squares regression but now you're a data scientist applying a supervised machine learning algorithm. Add that to your vita immediately!

As you hopefully noticed, the output from those two approaches was completely identical. As I mentioned earlier, machine learning with an ordinary least squares regression algorithm is the same as ordinary least squares regression the way we learned it in graduate school. So why bother with *caret*?

The answer is that the *caret* framework then makes it easy to add and test tuning parameters, to change algorithms to examine varying levels of fit between them, and to run models much more complex than ordinary least squares regression.

So let's go back to Figure 1. If we follow the path given our data (predicting quantities with less than a hundred thousand cases), we find ourselves at the "few features should be important" decision point on the right (an I-O might phrase this as "do you care about parsimony?"). Let's say that we don't, which points use to "SVR [support vector regression] (kernel='linear')." Sounds fancy.

How do we do this with *caret*? It's surprisingly simple. We only change the *method* parameter. Everything else is automatic.

```
svr_model <- train(y ~ x + z, randu, method='svmLinear3')
svr_model
```

Note that *summary()* does something very different with the result of this analysis, so instead we ask for the *svr_model* variable we created to get meaningful information (at least, meaningful to an I-O!). Here's what it returns:

```
L2 Regularized Support Vector Machine (dual) with Linear Kernel

400 samples
  2 predictor

No pre-processing
Resampling: Bootstrapped (25 reps)
Summary of sample sizes: 400, 400, 400, 400, 400, 400, ...
Resampling results across tuning parameters:

  cost  Loss  RMSE       Rsquared
  0.25  L1    0.2982899  0.009883891
  0.25  L2    0.2984533  0.005443532
  0.50  L1    0.2980380  0.008861607
  0.50  L2    0.2987358  0.006089387
  1.00  L1    0.2978985  0.007793522
  1.00  L2    0.2987444  0.006030348

RMSE was used to select the optimal model using  the smallest
value.
The final values used for the model were cost = 1 and Loss = L1.
```

As you can see, the R^2 in the best-tuned model has increased by roughly 30% (an increase from .006 to .008). Importantly, you may see different values when you run this yourself, because a random number seed is used to start this procedure and only 25 bootstraps were used. Additionally, both modeling and tuning was done on the same dataset, so we'd expect these values to be a bit inflated. So to deal with that, you would normally at this point cross-validate all of the models you developed on the training dataset on a test dataset to see which was most accurate when predicting *y* on untrained data. There are in fact ways to do this automatically using *caret*. In your cross-validation of these data, you would likely discover that this model works no better than our original ordinary least squares approach, as expected when modeling random numbers. But if you're working through these examples with your own data, perhaps you'll discover something else.

Because machine learning algorithms often don't produce interpretable, usable, or at least practical formulas, the next step is to ask R to use the results of the support vector regression we just ran (i.e., what the machine learned, itself a new algorithm) to predict values in a new dataset. Because we only have our training set available, we'll just use our newly developed algorithm to predict *y* in that dataset for this demonstration:

```
predicted = predict(svr_model, randu)
predicted
```

If you want more information about how a particular algorithm works, you will want to [start on this page](#), which lists all the algorithms available within *caret*. There, you'll see that *svmLinear3* came from the LiblineaR package, and the command *??liblinear* in R will lead you to help pages explaining what it is and how it works plus references to the academic publications that support it.

Although this just barely scratches the surface of machine learning, I hope you can see that it is not fundamentally different from the statistical approaches you've already been using. Most critically, I hope you can see that there's no great barrier to diving in to test a few algorithms and see what they do with your own datasets.

So Who Should Learn Machine Learning?

There's currently a lot of interest in machine learning, and according to the practitioners I talked to, it's popping up throughout the I-O world. Despite this, I found several of these practitioners either unwilling or unable to talk how they were personally using it as a result of real or perceived employer restrictions. As one anonymous interviewee put it, "A lot of people see [machine learning] as their 'secret sauce,' which is funny, because no one can recreate your model without your data, and the information for making your own model is out there already." The mindset described is a little silly, because as I described and demonstrated above, machine learning algorithms are fundamentally just *different* algorithms from the ones we already use. I imagine the current level of secrecy as similar to the use of statistics in business in the old days: "Don't tell them we use multiple regression!!" Yet this is the world in which we now find ourselves.

Undoubtedly, the best uses of machine learning are when you are conducting exploratory or essentially exploratory analyses on large datasets. If you have more than 10,000 cases in any dataset, you have an excellent opportunity to see how differently these newer machine learning algorithms perform in comparison to traditional algorithms you typically use. Additionally, if you have mountains of text data, there's a great deal of potential to predict other variables from those data. If you never see a dataset with more than 500 cases, you're probably not going to find much here that you couldn't already do with the standard I-O toolkit. But in general, among those that had explored machine learning, I found a great deal of enthusiasm:

> Although classic I-O methods have their place and machine learning methods also have downsides, I-Os need to be more proactive about exploring these methods and creating guidance for how to utilize them in the I-O space. Adverse impact and validity are of course critical concerns, but the way we ensure that these concerns are heard is to make sure we have a seat at the table by getting involved in the use of these methods and guiding best practices.

Like this practitioner, I think it's important that we as a field don't bury our heads in the sand. The best way to avoid that is to work directly with data scientists, and a little knowledge of machine learning goes a long way in this sort of collaboration. As an anonymous practitioner told me, by gaining some basic machine learning skills, "I have brought the I-O perspective on what constructs we should be investigating, how to clean the data to get our raw data closer to those constructs, and interpreting the results through the I-O lens. We often work of a project at the same time and in some cases either of us could handle a task and in others one of us will work within our area of expertise." It is through these sorts of demonstrations of mutual competence that trust is created, and trust is the first step to the collaborative, interdisciplinary efforts that will produce the greatest value for organizations.

As an applied example, **Matt Barney**, founder and CEO of LeaderAmp, describes how he has woven together machine learning and I-O to bring value to his consultancy:

> [We use] machine learning to do assessment in a novel way that avoids the sexism, racism and atheoretical problems that others famously have (e.g. Google). Our early alpha release can use Natural Language ML to unobtrusively assess people with Cialdini's principles of persuasion, and then gives them specific feedback using his science. Our approach blends a Rasch Measurement approach that ensures the lack of DIF/DFT, with an approach I've developed originally for virtual worlds, and naturalistic rating situations called Inverted Computer Adaptive Measurement.

To Learn More

By a wide margin, the resource most recommended to dive into machine learning is a Coursera MOOC by Stanford professor Andrew Ng, [which you can find here](#). It covers machine learning concepts in a fairly friendly way, primarily with videos interspersed with short quizzes. However, there are two aspects of this MOOC that might make it unattractive to a general I-O audience.

First, he does not hold your hand *at all* in regards to mathematics; there is a "brief review" of linear algebra, and then you are thrown into the deep end. Second, the primary statistical programs used are Octave and MATLAB, which are not mainstream choices in the I-O community.

As an alternative to that, for those of you familiar with R or Python, I'd recommend a trial by fire; specifically, I suggest opening up the largest dataset you have available and try to apply some machine learning algorithms to see what happens. Unfortunately, if you don't already know at least one statistical programming language, you're going to have a difficult time getting into machine learning. If that's you, I'd recommend learning R first, because that'll be [useful to an I-O like you regardless of whether or not you continue pursuing machine learning](#).

If you don't have a good dataset to practice on, that's less of a problem. I recommend trying DataCite, [which has a search tool to locate datasets](#) or alternatively [Kaggle](#).

Once you have a dataset to play with and software to use, tutorials on machine learning abound. Google will turn up hundreds. If you're using R, I suggest starting with Chapter 1 (the only free one) of [this course developed by the creator of the *caret* package](#). Alternatively, if you just want to get down to business, [this tutorial is short and sweet](#), and you will get a very good window into the mindset of a data scientist when approaching a dataset for analysis.

If you're the Python sort (if you don't know Python, [get started here](#)), you're going to become very familiar with the [*scikit-learn* library](#), which contains everything you're likely to need. With that installed, you might start with [this tutorial provided in that library's documentation](#).

Conclusion

That's it for the third edition of *Crash Course*! If you have any questions, suggestions, or recommendations about machine learning or *Crash Course*, I'd love to hear from you ([rnlanders@odu.edu;](#) @rnlanders).

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I-Opener: Workaholism—It's Good! It's Bad! It's Inconsistently Defined

Qin Cai and ./Steven Toaddy
Louisiana Tech University
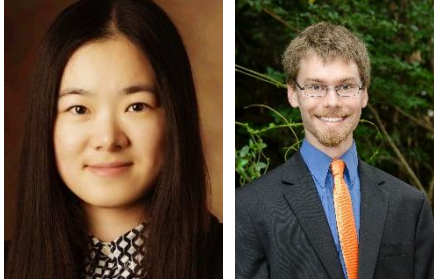
In recent years, there is increasing research interest in workaholism (Clark, Michel, Zhdanova, Pui, & Baltes, 2014). However, if one has read research articles on this topic (e.g., Aziz & Zickar, 2006; Fassel, 1990; Machlowitz, 1980; Mudrack & Naughton, 2001; Ng, Sorensen, Feldman, 2007; Oates, 1971; Porter, 1996; Robinson, 1998; Schaufeli, Taris, & van Rhenen, 2008; Scottl, Moore, & Miceli, 1997; Snir & Harpaz, 2012; Spence & Robbins, 1992; Sussman, 2012), it is not difficult to notice that there is lack of consensus in definition of workaholism (Clark et al., 2014). Because of the situation of multiple definitions for workaholism, conclusions can not be clearly drawn from different research, because there is no guarantee as to whether the differences among these research originate from differences between research per se, or just from different definitions that researchers adopted, where the latter means that basically researchers are measuring different things. For example, according to Ng et al. (2007), workaholics should have career satisfaction and success; however, this would not be the case according to Spence and Robbins (1992). If someone looks at the definitions of workaholism these researchers used in their research, it will be clear why they would not agree with each other. In the definition given by Ng et al. (2007), workaholics enjoy working, whereas, in the definition provided by Spence and Robbins (1992), they do not. This is, suffice it to say, troublesome.

What Is Workaholism?

In order to get a better sense of the meaning of workaholism, instead of continuing on the endless literature reviews in I-O psychological researches, the first author turned to some others who are working in not I-O psychology but in related fields, because these people should also have heard of and/or dealt with workaholism in the workplace. So on this topic, the first author interviewed four people: Donna May,[1] who is a social worker; Erica Harriss,[2] who is an entrepreneur; an anonymous HR professional[3]; and an anonymous counseling psychologist.[4] Each of them received the same questions regarding their perceptions of workaholism. The first (and the most important) question was "What is workaholism—or what are workaholics?" Because Clark et al. (2014) summarized and provided a list of workaholism definitions out of previous research, let's compare and contrast the definitions provided by these four interviewees and those listed in Clark et al. (2014).

When asked for a definition of workaholism, the counseling psychologist gave a very specific definition: "A workaholic is someone who works excessively; doesn't have work-life **balance**; and isn't available, both emotionally and physically, for family and friends." This definition shares a lot of commonalities with those definitions listed in Clark et al. (2014). For instance, several research (e.g., Aziz & Zickar, 2006; Ng etal., 2007; Oates, 1971; Porter, 1996; Spence & Robbins,

1992) all explicitly included words such as "obsessive," "excessive," or "highly involved" in their definitions of workaholism; and several workaholism definitions (e.g., Porter, 1996; Robinson, 1998; Schaufeli, Taris, & van Rhenen, 2008; Scottl, Moore, & Miceli, 1997) all mentioned that workaholics neglected their life outside of work—for example, neglecting family. Additionally, the counseling psychologist brought up later in the conversation that "Workaholism is like an addiction," for which some researchers (e.g., Fassel, 1990; Snir & Harpaz, 2012) shared the same thoughts.

The HR professional shared some similar thoughts of "being obsessed with work" with the counseling psychologist and with some I-O researchers (cited above): "Workaholics are those who are dedicated to and who sacrifice their life to work." However, the HR professional added "They are misguided, and they should learn how to prioritize their work." The individual provided the reason why people show up as workaholics: Those people either have too much work to do or want to impress others to make themselves feel important. Workaholics "create work that is neither productive nor valuable." Compared to those who are engaged in work, workaholics spend more time in doing the same amount of work. It may be that the workaholic is "in a level challenging them more than necessary potentially based on their knowledge and skills." Employees need to "have a **balance** of life, to help them get more done when getting back from rest."

Erica (the entrepreneur): "Negative connotation. A workaholic is someone who is out of **balance** in their life. It is the opposite of being lazy."[5] Besides the similar point of "out of balance" with the counseling psychologist, to Erica, it seems that workaholism and laziness are the two ends of the same continuum. Both sides have negative connotation, and balance locates in the middle of the continuum.

Donna (the social worker): "A workaholic is someone working excessively as the word alcoholic references someone who drinks excessively." Throughout the interview, she mentioned several times that one should maintain a "**balance**" to have a "healthy" life. Workaholism is "detrimental" and "should not be encouraged for any reason."

For all four of the interviewees, "balance" is something missing in workaholics.[6] However, none of the definitions listed in in Clark et al. (2014) explicitly included "balance." Maybe researchers should consider whether "balance" should be included in the definition of workaholism in future studies.

Things Go Beyond Workaholism

According to the counseling psychologist, workaholism is just a thing, like a symptom, through which we look for what is going wrong. Workaholism per se is not the thing we want to study. "Perceiving workaholism as positive or negative is not the major thing. It depends on personal experience, depends on how it affects that person's personal life." It may be the motivation behind the workaholism that researchers should look into. For example, workaholics may use workaholism as a distraction from their trauma. It is their way to cope with their negative emotions. In the similar vein, one of the reasons that the HR professional gave for why people become

workaholics is that people choose to be workaholics because of cultural or economic factors. When the economy takes a downturn, employees may feel very insecure and have to work the hardest and longest to stay employed.

Maybe digging deeper underneath workaholism to look for what workaholics try to hide under the mask of workaholism is what researchers really need to do. This is similar to those I-O psychologists looking for mediators and moderators in the relationship between workaholism and other variables. Workaholism itself may not be that important. What is critical is those things hidden behind workaholism.

Some Thoughts to Share

First, considering that there exist too many workaholism definitions in the I-O psychology research, there is a need to combine and unify them into one. Here is one reason. At the end of the interview, the counseling psychologists commented: "Just talk to those people who perceive themselves to be workaholics." Upon immediate reflection, one might consider it very reasonable to do that to get the idea of what workaholism is. However, when thinking over this response, one might realize that it is not as easy as it seems to be. For example, what if an individual thinks that (s)he may be a workaholic but is not sure (and this might be the case for many people)? This person may very likely go to check the definition of workaholism; however, in the current situation, it would be difficult for this person to get the answer because of too many definitions of the term. Might an individual shop around for the one that either vindicates or exonerates?

Second, people's opinions of workaholism can change. Two of the interviewees said that their perspectives on workaholism had changed over time. The counseling psychologist used to perceive alcoholism more positively as it can contribute to success; but after studying psychology, she is more aware of the potential harmful effects of workaholism on individuals' lives. Erica (the entrepreneur) thought that her perspective on workaholism changed as well. She used to see workaholics as those working busily and lonely, but now she thought that there were ways in which workaholics could keep a balance of their life while keeping a busy work schedule. Thus, when we conduct research on workaholism, it may be necessary for us to take a dynamic perspective.

Third, getting opinions from those outside of the I-O psychology community can be beneficial. During the interviews, these four non-I-O people brought in some fresh thoughts over the topic. For instance, all four interviewees mentioned there was some lack of balance in workaholism, which those definitions listed in in Clark et al. (2014) didn't explicitly include, and Erica (the entrepreneur) giving the thought that workaholism is the opposite laziness[7] might add new thoughts into looking at workaholism in a different perspective. For some workaholics, maybe they just want to prove that they are not lazy in the first place, so they moved from the laziness side to the workaholism side along the same continuum; however, they misjudged it and went too far over the middle, balanced point of the continuum.

Okay So What Am I Supposed to Do Now?

Ah, good of you to have asked! There are different contributions that different individuals are in a position to make—practitioners, researchers, faculty, students, and so on—so here's a list of items that you could choose to undertake based on your available resources:

1. For researchers, please come together and make efforts to unify multiple definitions into one, or at least clearly state the definition that you will use and adopt a measure pertinent to the definition you use in your research.
2. For practitioners, be aware that there are different definitions of one construct and make sure you use research results based on the definition and associated measure pertinent to your practice (until researchers fix this problem by following the first item).
3. For faculty, please include the information that there are multiple definitions of a construct when teaching courses so students will be warned.
4. For students, please check the definitions and measures when you read literatures and stay alert that conclusions may come from different definitions and/or measures.
5. For all I-O psychologists, don't forget that people in other fields outside of I-O psychology may have different perspectives that psychologists can benefit from. Be sure to include their opinions.
6. For everyone, remember that this is not just about workaholism, really. The examples that we provided are, sure, but you could consider running through this same exercise for a whole suite of phenomena: from worker attitudes to intelligence theories to organizational outcomes and beyond.

Notes

[1] Donna May works as a life transformation coach at Connections to Success.
[2] Erica Harriss is the founder of Saving Grace Beauty, LLC.
[3] Who has been working in HR positions for 16 years.
[4] Who has more than 10 years of work experience in counseling psychology.
[5] Not the absence of laziness—the opposite. Sit with that one for a minute.
[6] It is possible that you already noticed this.
[7] WE TOLD YOU TO SIT WITH IT FOR A MINUTE.

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History Corner

Nathan T. Carter
University of Georgia

It is with great excitement that I write to you in my first installment of the *History Corner*. I am proud to join a great group of people who have served as Historian in the past. Over the coming years, we plan to continue build upon the fantastic work by my predecessor**, Jeff Cucina**, who has initiated such projects as the SIOP Time Capsule and the Living History Series, in which the field's luminaries are interviewed at the annual conference. I am also excited that my first History Corner article features two stellar graduate students from the University of Georgia, whose independent study in the area of "big data" inspired this article.

Digital Humanities and the Psychology of Work

Nathan T. Carter, Megan R. Lowery, and Lane E. Siedor
University of Georgia

As scientists studying the psychological experience of workers, I-O psychologists are frequently limited by the scope of the data available to them. We study the changing nature of work over time and its impact on workers (e.g., Wegman, Hoffman, Carter, Twenge, & Guenole, 2016) but are limited to the relatively immediate past—primarily the 1970s to the present day. This seems a major limitation considering humans have participated in organized work across the globe for millennia and major changes to how work is done, how it is viewed, and its place in our lives has gone through many shifts. Furthermore, we are often limited

to studying more statistically common subpopulations of workers in contemporary settings. Despite this, there is much to be said for studying luminaries in various fields (e.g., Aguinis & O'Boyle, 2014) and in examining the context-dependent boundary conditions of our theories by examining less common occupational groups such as authors, artists, and great leaders.

The limitations noted above are rapidly being lifted in a movement often referred to as the *digital humanities*. This movement lies at the intersection of fields such as history, anthropology, the arts, and data science, allowing for a more integrated and systematic perspective on various human phenomena. In this column, we argue that the digital humanities perspective presents an incredible opportunity for I-O psychologists interested in asking unconventional questions or conventional questions in unconventional populations and settings.

In particular, we focus here on the promise of text-based analysis, a familiar area because of the recent surge of interest in "big data" (see Guzzo, Fink, King, Tonidandel, & Landis, 2015 and accompanying commentaries; Harlow & Oswald, 2016, and associated articles; Landers, 2016; Morrison & Abraham, 2015; and Tonidandel, King, & Cortina, 2016) but focuses on data sources traditionally associated with the humanities and historical research. Researchers may aim to analyze transcriptions of interviews in oral history collections, major works of literature (both quantitatively and qualitatively), memoirs, or text-based updates on social media to explore motives for behavior, elements of well-being, relationships between performance and a variety of individual differences, social movements, labor disputes, and histories of unrest in work matters.

Sources of Data

One of the most advantageous aspects of utilizing the digital humanities approach in psychological research lies in the emphasis on historical data that have been collected, digitized, and made freely available by numerous online sources. Table 1 shows a list of various free online resources available along with hyperlinks to their websites. In addition, more specialized archives exist, such as the Southern Oral History Project (http://sohp.org/) and the European University Institute's Archives (http://archives.eui.eu/en/oral_history/). Aside from the readily available sources online, we highly recommend researchers seek out support for use of the digital humanities within the university setting. For example, the University of Georgia Libraries have launched a Digital Humanities Initiative (DIGI) to encourage related research, and universities such as the University of Illinois and Duke University have similar resources. These centers often offer digitization services for researchers and can be invaluable for finding others with similar interests. Below, we discuss two areas that we believe are rife for attention from I-O psychologists.

Table 1
Some Data Resources for Digital Humanities Research

Resource	Description
JSTOR Data for Research http://about.jstor.org/service/data-for-research	Provides a host of digital materials and tools to allow researchers to download metadata, word frequencies, key terms, and n-grams across the body of literature available within the *JSTOR* archive.
The HathiTrust Digital Library https://www.hathitrust.org/	Partnership of major research institutions and libraries consisting of over 2.7 million volumes within the public domain. Within the HathiTrust Digital Library are multiple types of work ranging from audio formats to maps to newspaper articles
The University of Oxford Text Archive (OTA) https://ota.ox.ac.uk/	Provides high-quality digital resources for research and teaching, and consists of a collection of thousands of works in more than 25 different languages.
The Internet Archive https://archive.org/index.php	Nonprofit digital library containing millions of free books, movies, music, images, and collections of work
The Digital Public Library of America (DPLA) https://dp.la/	Provides access to material from libraries, archives, and museums around the United States in the form of an interactive portal that allows users to search by timeline, map, format, or subject

Perceptions of workers through the years. Many databases go back very far, and databases also exist that are primarily focused on major events in history that were centered around workers, such as the Farmworker Movement Documentation Project at the University of California San Diego (https://libraries.ucsd.edu/farmworkermovement/medias/oral-history/). Such databases, as well as historical and anthropological work regarding working populations (e.g., Timothy Minchin's *Fighting Against the Odds: A History of Southern Labor Since WWII*) represent a highly valuable potential source for data regarding the conditions and sentiments of workers. In fact, many anthropologists study human labor ranging from the present to the ancient. Certainly, there is a great potential for inroads to be made in fields of study such as the Anthropology of Work (see http://saw.american-anthro.org/) and Industrial Archaeology (see http://www.sia-web.org/) that should not be ignored by I-O psychologists. An awareness of and involvement in these fields may greatly increase the impact and generalizability of work similar to Wegman et al. (2016) who studied changes in job characteristics in the recent past (1970s to present). Where direct accounts of workers are not available, more indirect sources could be examined, such as popular literature, music, and art, whose popularity may be an indirect indicator of public sentiment. Perhaps it is "pie in the sky" but we envision a psychology of work that can reach back further in time to mine data for a peek into the psychological experience of workers that have long since passed.

Rare or typically unavailable worker populations. For many good reasons, the majority of I-O psychology research is based on what we would consider representative worker populations, which allows for generalizations about a large number of workers. But the importance of occupational

subpopulations is certainly not lost on I-O psychologists, and the increasing focus on situational influences is a good indication of the need for its consideration. However, many subpopulations of workers are difficult to reach for commonly employed field and survey methods, particularly the "stars," or those individuals with disproportionately high performance, visibility, or social capital (Call, Nyberg, & Thatcher, 2015) that may be particularly rare within a given population. Of course, psychology is no stranger to qualitative studies of major figures, such as United States presidents, and clinical psychologists have generally lead this charge in the past (e.g., Gartner, 2008; McAdams, 2011). A digital humanities perspective, however, can bring new rigor and broadened scope to such study and allow these major figures to be differentiated along a number of lines, such as the setting of their work, their demographics and history (think biodata), and the source of the data by the analysis of biographies, autobiographies, memoirs, diaries, and interviews. The foci of these studies could include presidents, queens, kings, others occupying major political leadership positions, CEOs, musicians, artists, novelists, and so on. In addition, the experiences of marginalized workers such as immigrants, sex workers, and drug dealers could be explored through oral histories and other published accounts of their experiences.

Analyzing Data

Descriptive analysis. Researchers may want to start by conducting basic text analyses or summaries of their collected works. Descriptive analyses may include determining frequencies of words or phrases (i.e., *n*-grams), *collocation* (i.e., words that frequently occur in conjunction with one another), *concordance* (i.e., the context of a given set of words), or *entity recognition* (Duke University Libraries, 2016). Although these analyses are easily conducted, they provide only descriptive information whereas other types of analyses might allow richer inferences to be drawn. In using basic text analysis, I-O psychologists may answer questions such as: "Do men and women differ in the way they talk about their jobs?" "Has the way individuals describe their jobs or work changed over time?" or "Are there certain aspects of work that are more frequently discussed than others?" Furthermore, there are a host of tools available for descriptive text analyses including Linguistic Inquiry and Word Count (LIWC; http://liwc.wpengine.com/) engine, or the Google *n*-gram engine (https://books.google.com/ngrams), to name a couple.

Sentiment analysis. Next, researchers may wish to determine the sentiment of written work by computationally identifying and categorizing opinions expressed or attitudes toward a particular object, idea, movement, organization, and so on. Sentiment analysis largely determines whether typical attitudes toward specific targets has been expressed as positive, negative, or neutral within different literature pieces, and whether these opinions are comparative or not in nature. Sentiment analysis may provide very valuable, qualitative information that can be connected across sources or years to get a better understanding of how attitudes about work have changed over time or how attitudes differ across the world. For example, work by the United Nations Pulse Lab, highlighted by Gloss et al. (2016), used the tone of conversations on social media to further understand global unemployment trends. However, many preexisting tools for conducting sentiment analyses such as *Pattern*, a module for Python, and the "Rsentiment" package in R (Bose & Goswami, 2016) may not suit the needs of a specific research project. To

explain, the tools and dictionaries used in sentiment analyses have to match the underlying the-oretical argument set forth within the project. For example, if researchers wanted to investi-gate the shift in valence of attitudes toward wellness programs over time, they would have to utilize a program/dictionary that has been taught to identify words or phrases frequently asso-ciated with wellness programs. Thus, if there is not a preexisting tool to suit a researcher's spe-cific needs, there is an element of machine learning and data science that will be required to construct an appropriate analysis tool. To this end, Hernandez, Newman, and Jeon (2016) pro-vide an excellent chapter that describes such a process and is highly recommended reading.

Relationship or network analysis. Network analysis has already begun to elucidate concepts across our field, such as in theories of leadership (e.g., Carter, DeChurch, Braun, & Contractor, 2014) and in understanding how attitudes form and evolve over time (Dalege et al., 2016). This more advanced type of analysis investigates patterns of relationships among different actors within groups. Network analysis has primarily been used to study patterns of communication networks, influence networks, or friendship networks, and we believe it will also be useful at the intersection of digital humanities and the psychology of work. For example, researchers may answer questions such as: "How can an organization drive innovation through creativity networks?" "What characteristics of individuals are needed within a network at key times in or-ganizational change?" "How can network analysis be used to investigate mergers and acquisi-tions?" or "How can organizations identify integral people for hiring and promotions based on their network connectivity?" Furthermore, in several fields there has been an identification of the utility of examining collaboration networks (via coauthorships), and other types of networks could certainly be deduced from historical accounts and anthropological documentation. Addi-tionally, researchers may be interested in constructing synonymy networks (Guame, Duvgnau, Prevote, & Desalle, 2008) in order to identify how similar words are based on clustering, and may help explain differences and similarities in how people have talked about work over time, providing a statistical and graphical methodology for finding commonality in unique word usage (similar to the identification of a latent variable among item responses). Network analysis is likely to be incredibly informative and, with the rise in prevalence of use within our field, some researchers are already familiar with tools or programs used for data analysis.

Inference of psychological constructs. Finally, researchers may wish to use techniques to identify and scale the psychological characteristics of persons being studied. That is, we can study individ-ual differences (e.g., personality) expressed within the digital humanities and identify individuals in terms of the language they use using tools such as the IBM Watson personality text analysis program, which returns personality trait scores based on a given set of text. For example, work by Dr. James W. Pennebaker of the University of Texas at Austin has focused on the intersection of linguistics and psychology in identifying markers of certain aspects of personality or behavior. In-terestingly, a study by Newman, Pennebaker, Berry, and Richards (2003) predicted the occur-rence of lying from a participant's linguistic style. Another study utilized a meaning extraction method to analyze open-ended self-narratives and identify dimensions with which people tend to describe themselves aside from typical itemized personality measures (Chung & Pennebaker, 2008). In turn, I-O psychologists may take a similar approach to identifying linguistic markers of

leadership, using personality scores as a predictor of particular outcomes or as covariates, and estimating the attitudes and emotions of the subjects of study. Recently, Hogan X—a division of Hogan Assessments—has partnered with Receptivi.ai, a tech company that uses machine learning and natural language processing to turn unstructured data into personality insights based on the work by Pennebaker. The strategic partnership hopes to use Hogan Assessments' years of personality research to make drawing personality signals from text analytics easier for researchers and practitioners. With a little hard work, the options are seemingly endless and is in keeping with the lexical hypothesis upon which many theories of individual differences are based.

Closing Remarks

Although we ourselves admittedly have much to learn about this new area and the methods involved, we believe the digital humanities approach to the analysis of historical documents presents an exciting, cutting-edge methodology for I-O psychologists to explore. Additionally, this type of research can help to catalyze collaboration with other researchers and promote an interdisciplinary approach to answering some of the most challenging questions within the psychological sciences. Further, it allows for I-O psychologists a more direct path to fulfill past calls to action for person-centric (Weiss & Rupp, 2011), humanistic (Zickar, 2010), and histiographic (Zickar, 2015) approaches to the study of work and workers. We hope this article will spark action and/or debate in the field to incorporate a digital humanities perspective into our research.

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Showcasing Small Grant Award Winners

Liberty Munson, Microsoft Corporation
Garett Howardson, Hofstra University

I recently had the opportunity to talk to **Ann Marie Ryan** and **Abdifatah Ali** about the small grant award that they won from SIOP in the Spring of 2016. Although **Jessica Keeney** was unable to join the conversation, she did provide additional insights via email. Let's take a closer look at the research that they are doing and how it will help not only organizations make better hiring decisions but also help a increase the fairness of hiring decisions for a group that is commonly overlooked because of their past.

Overview of the Grant

The purpose of Small Grant Awards is to provide funding for research investigating topics of interest to both academicians and practitioners. Partnering with a practitioner—Jessica played that role in this research—ensures that both the academic and practitioner perspectives are considered and the resulting research benefits both the science and practice within our field. Each grant proposal is evaluated by both academic and practitioner members of the subcommittee for its significance in advancing both the science and practice of I-O psychology, justification for budget requested, research approach, innovation, and appeal to a wide audience. All grant award recipients are required to deliver a final report to the SIOP Foundation within 1 year of the date of the award.

In this case, Ann Marie, Abdifatah, and Jessica received a $2,500 grant for their research to understand why those with criminal records have difficulty finding jobs, increase the fairness in the hiring

practices associated with these individuals, and help these individuals develop more effective interviewing techniques. This research stems for their long-time interest in fairness in hiring and the stigmatization that occurs during the hiring process (both consciously and unconsciously).

The Spark of an Idea

While conducting research on the job search process at a job placement center, people began telling them about some of the challenges they face. Several mentioned that their biggest challenge was not even being given the opportunity to interview because they had criminal records, sometimes decades old. They wanted advice for what to do improve the likelihood of getting the interview, and then, if they did, how they can best present themselves during the interview.

This sparked their interest in a line of research focused on the job relatedness of an applicant's criminal activity and to what extent that is and should be considered in the hiring process. Further, what strategies could these applicants employ during interviews to deemphasize their criminal records and showcase their relevant job related skills?

Forming an Academic–Practitioner Alliance

This research stream is truly an academic–practitioner collaboration. Jessica's employer at the time, APT *Metrics,* was providing litigation support for the plaintiffs in a class action lawsuit. As part of that work, they developed a methodology for validating criminal background checks to ensure that employers only consider job-relevant crimes. Around that time, she learned that Ann Marie and Abdifatah (from her alma mater) were also researching criminal background checks. Initially, it appeared that they were approaching the topic from different perspectives with the practitioner focus on how employers can protect themselves from litigation and the academics focus on how to help individuals with criminal records obtain employment. Fundamentally, however, they were studying the same question: How can employers use criminal background information in a fair, relevant manner that doesn't deny individuals employment for which they are qualified?

The Unique Contribution

Jessica argues that criminal background checks are the last frontier of employment testing for I-O psychologists. We have studied and validated interviews, written tests, and physical ability tests, but we have not focused on background checks although they qualify as selection procedures under the Uniform Guidelines just like any of those other assessments. Employers who do not conduct background checks are exposing themselves to negligent hiring, but research also shows they are also more likely to make discriminatory hiring decisions, using criminal background as proxies for race and socioeconomic status when they do. Thus, it is in both the employer and applicant's best interest to conduct background checks and do them well. I-O psychologists are in a unique position to leverage our skills and inform organizations about the most effective approach to understanding and applying the information obtained from background checks.

Key Factors to Successfully Grant Applications

They believe that much of their success at winning this award is related to three key factors:
- Developing a strong academic–practitioner partnership that results in outcomes that will contribute to driving our science forward as well as improving organizational hiring practices,
- Presenting the initial research at a well-received SIOP session (so they knew there was interest in what they were doing), and
- Having a well-defined, long-term research plan.

What They Were Surprised to Learn

Ann Marie commented that her most surprising insight was the variability in beliefs related to criminal records. Some believe that any criminal record should exclude a person from a job regardless of when the crime took place or what it was without realizing that the more time that passes since the commission of the crime, the less likely it is to happen again. Unfortunately, this belief contributes to recidivism because without employment, ex-convicts are more likely to repeat offend. Further, most people don't want to work with someone who has a criminal record; they don't make the connection that a particular crime is rarely tied to someone's ability to perform their job or to job-related skills and competencies. Person-oriented jobs, in particular, are more likely to suffer from this bias.

Now, For Something Fun

I always like to end these interviews with something fun. Let's start with something interesting about our award winners. Abdifatah was in a hip-hop band between high school and college, opening shows for other musicians. Ann Marie is a huge Michigan State football fan (you don't have to wonder how she spends her Saturdays in the autumn!); she loves to travel and was in Machu Picchu, Peru, this spring.

As for what piece of advice would they give to someone new to I-O psychology ala "If you knew then what you know now," Abdifatah's advice for other graduate students is to learn from your and other's life experiences, really listen to what they are saying because that's where you'll find the best nuggets for future research. You can learn as much from those experiences as you can from the literature.

Ann Marie's advice? Don't lose sight of why you're in this field in the first place; people's work lives matter. Ask yourself, "What am I doing that can help make the workplace better?" Stay passionate about what you do and the impact that it has; remember what attracted you to the field in the first place.

Liberty Munson is currently the principal psychometrician and Assessment and Exam Quality lead at Microsoft. She is responsible for ensuring the validity and reliability of Microsoft's certi-

fication and degree programs. Her passion is for finding innovative solutions to business challenges that balance the science of assessment design and development with the realities of budget, time, and schedule constraints.

Liberty loves to bake, hike, backpack, and camp—basically, if the sun is shining you'll find her enjoying the great outdoors; if not, she's in her kitchen tweaking some recipe just to see what happens. She has also been actively involved in editing Microsoft's cookbook to raise money for a local charity, FareStart, as part of Microsoft's Give Campaign. And, she just got a new mini schnauzer puppy, Apex!

Garett Howardson is currently an assistant professor of Psychology at Hofstra University in Hempstead, NY, and an adjunct professor of I-O Psychology at The George Washington University in Washington, DC. In addition to his academic responsibilities, he regularly consults with the American Council on Education and the U.S. Army Research Institute (among others) on a variety of topics.

Most of his work focuses on quantitative, psychometric, and/or computational issues to better understand the psychology of modern, technical work writ-large (e.g., aerospace technicians, computer programmers).

Garett is also an avid computer geek. In fact, he has a degree in computer science, which he avidly applies to his research and consulting in pursuit of one deceivingly simple goal: better integrate I-O psychology and the data/computational sciences to understand work.

Lost in Translation: Overcoming Critics and Barriers in Applied Organizational Research

Michael L. Litano and Andrew B. Collmus
Old Dominion University

The scientific study of people is complicated. Although human behavior is astoundingly predictable, scientific disciplines are often classified into a "hard" and "soft" dichotomy based on perceptions of the field's methodological rigor and exactitude. Unfortunately, this artificial categorization rarely takes the complexity of *what* we study into account. Individuals vary greatly on a number of factors, and those differences influence their behaviors. However, there are also countless environmental factors that influence human behavior, and any number of these factors can interact and modify the behaviors we might otherwise expect. These individual differences and their interactions with the social environment are what makes the study of people so interesting but also extremely difficult. This complexity affects our ability to accurately and reliably measure unobservable constructs and influences the extent to which we are able to unobtrusively conduct research in naturalistic (work) settings.

From our experience, communicating the value of studying people can be equally as complex as the conducting the actual research. Psychology is unique in that our "subjects" are, as **Dr. Scott Tannenbaum** quips, "day-to-day psychologists," which empowers them to associate research

findings that align with their experiences as "common sense" and be skeptical of personally counterintuitive findings. This phenomenon extends to the workplace and impacts our ability to effectively communicate the value of our research.

I-O psychologists use a variety of data collection methods to gather as much information as possible on the unobservable phenomena influencing employee behavior, including surveys, interviews, focus groups, and direct observation. However, each of these research methods comes its own set of critics. Having interacted with skeptics of survey research and managers cynical of qualitative studies in our own applied experiences, we turned to experienced I-O psychologists to better understand common obstacles in I-O research methods and to gather advice on how to overcome critics by using effective translation.

Given the extensive effort involved with arranging interviews and synthesizing data, we combined the data collection efforts from both our [second](#) and third columns. As a result, 20 of the 25 I-O psychologists (11 men, 9 women) interviewed for Column 2 also served as respondents for the current column. Our sample consisted of 11 practitioners, 3 applied researchers, 2 university professors, 1 postdoctoral researcher, and 3 graduate students who were employed as interns with external consulting companies.

Of the 20 respondents interviewed for this column, only three reported never having faced a critic or skeptic of I-O research methods. Interestingly, two of these three respondents were graduate students who were also employed as interns. The third respondent was an early-career professional who reported working primarily with a team of I-O psychologists. It seems possible that at the early stages of their careers, these participants lacked the level of exposure to unfamiliar or hostile audiences that some of the more tenured I-O professionals have experienced. The majority of the remaining 17 respondents reported experiencing pushback or concerns regarding I-O research methods from their colleagues and/or coworkers from different disciplinary backgrounds (76.5%), clients (58.8%), and upper management or senior leadership (58.8%). Dissimilar to the authors' own personal experiences, only three respondents reported encountering any resistance from the participants of a research study. Unsurprisingly, the respondents generally reported that individuals who had greater exposure to I-O psychology (immediate supervisors, projects managers, team members, subordinates) tended to be less critical of I-O research methods.

The respondents then identified specific concerns they have faced regarding their use of I-O research methods and provided advice on how to best overcome concerns with the use of survey-based research methods, interviews and focus groups, direct observation, and quasi-experiments (including training interventions). Given that much of the advice the I-O professionals provided was generalizable across research methods, we first present the common concerns associated with each method and follow with advice on how to overcome resistance from unfamiliar audiences.

Surveys or questionnaires are commonly used in I-O psychology due to the method's administration flexibility, output of quantitative data, generalizability to the larger population, and cost-effectiveness. However, respondents overwhelmingly reported survey-based research to face the most resistance and criticism ($n = 14$). The most concerns that I-O psychologists reported facing with respect to survey-based research was related to (a) the quality of information that surveys or questionnaires provide, (b) management's concerns with faking and/or socially desirable responding, (c) concerns about the measurement instrument, and (d) survey fatigue.

> Some employees and managers are skeptical that meaningful information can be gathered from surveys. I have heard concerns that people generally lie on surveys or that because people don't respond to surveys we aren't capturing the full picture, or that some other piece of information is probably more reliable than self-reports.

> A [senior leader] was concerned that survey data is unreliable because employees are likely only motivated to respond in ways that make themselves look better.

> What's wrong with a one-item scale?

> People do not exist on the response scales that you create.

> Occasionally, I do run into an organization who has the reaction of, "another survey, oh my goodness, our people are surveyed out."

> We often run into situations where [organizational leadership] says, "well, we'd love to get that data, but we also got our big engagement survey going out at the same time," or "people have survey fatigue," or "we're just surveyed out." So, in some ways I think too much data collection has been challenging.

Whereas surveys provide researchers with quantitative data that can generalize to the population with a representative sample, *interviews, focus groups, and SME panels* tend to provide more contextualized information and can be used to develop a deeper understanding of job requirements or underlying motivations and opinions. Although respondents reported these methods to face less criticism than surveys, eight interviewees described experiences in which they faced some form of resistance from management, employees, or clients. Most concerns were related to (a) interruptions to business, (b) meaningfulness and quality of data, or (c) overreliance on intuition or "gut feelings."

> Management is generally concerned that interviews take too much time, cause business interruption, and are difficult to schedule.

> I have encountered people who believe that "gut feelings" and creative interview questions are better tools for employee selection than structured interviews. For focus groups, some have said that no one will provide honest feedback.

Depending on what type of audience you are presenting to, qualitative data can sometimes be viewed as "soft" data. Qualitative data can be perceived as less rigorous than quantitative data.

Participants sometimes believe that their opinions do not matter very much.

An important part of understanding both the task requirements and human attributes of a job is by *directly observing* incumbents. Only three participants from our sample specifically described encountering stakeholder concerns with this research method, so general themes did not emerge.

For many jobs I am tasked to directly observe, I often run into time constraints. An hour does not provide adequate insight into what the job actually requires. There also tend to be concerns over data privacy.

Hawthorne effect—people act differently when they know they are being observed.

Limited sample sizes and observations do not provide enough information.

When well-designed and carefully controlled, *training interventions or quasi-experimental methods* are powerful processes through which I-O psychologists can facilitate employees' acquisition of knowledge, skills, or attitudes. Only five I-O professionals described situations in which stakeholders (a) did not understand the research design or questioned inferences of causality, (b) attempted to influence the content of the intervention, or (c) were resistant to a quantitative evaluation of the training.

If there's no random assignment, how can we demonstrate causality?

The big issue I hear about interventions is that if we think it's effective, we should either roll it out to everyone or let everyone who wants to participate in the pilot join in, even if they join at different stages and put their own spin on the intervention. Senior leaders believe they know what is best for their groups and are used to making a lot of the big decisions.

The hardest part about communicating the value of training is sometimes emphasizing the importance of its evaluation. I consulted for a company where their HR team had conducted a "creativity" training class for 10+ years, and when I asked what metrics they used to evaluate the intervention's effectiveness, I was told, "people come up to me in the halls and tell me how much they enjoy the class and how much more creative they are afterwards." In some ways, I felt that the HR team might be resistant to a quantitative evaluation of training outcomes because they were scared to find that it might not be as effective as they thought.

One non-I-O colleague said, "There are too many other factors at play to say with confidence that this particular training was the root cause of the intended effect."

Finally, some of our interviewees identified general concerns and criticisms they have faced that were not directly related to one of the previously described I-O research methods. Rather, these responses all link back to the complexities of *what* we study and *to whom* we report our findings: people.

> I think the criticism is typically less about the methods. If I'm talking to people who don't have an I-O background, sometimes the thing we have to overcome is that everyone feels like they are a psychologist. It's not dissimilar to marketing. Everyone kind of feels like, "Oh, I know a little bit about marketing." But there's people who have deep expertise in marketing. So at one level, humans are all day-to-day psychologists, we're all trying to figure out how people think. So the question is, "What new [information] do you bring?"

> I have experienced various stakeholders express concerns such as, "You really can't predict people's behavior," "People don't actually change," "We've been doing this for 20 years and it works fine,"and, "I see you're the flavor of the month."

> The most common criticism that I have had to deal with in my career is when I encounter an employee who does not believe a psychologist is the appropriate person to make decisions related to another job or occupation field. They say something like, "How can a Psychologist tell me more about my job than I can?"

> When we report findings, people are sometimes concerned with our ability to generalize to the larger population of the organization—especially when our sample size is small. In these cases, they are concerned that only employees at the extremes are responding.

Although these concerns may intimidate the early-career professional or I-O psychologist that has yet to master the art of effectively communicating the value of I-O research methods, we were fortunate enough to acquire a wealth of practical advice from our interviewees that we hope you will use as a resource to help increase your effectiveness as a "translator." We have grouped the practical recommendations into five general themes:

1. **Educate the stakeholders**
   Just trying to help them understand that there is a deep science, there is some knowledge about human dynamics [at work]... so we've got to be able to provide them with examples of how an understanding of human dynamics in a work setting is more than just common sense, and you know, in our field we at times uncover research that's contrary to what one might think is common sense.

   Oftentimes sharing information and past research about why the I-O approach is better seals the deal. The key is to present our compelling data in a friendly format so that it is easy to understand.

Explain to them that certain constructs cannot be assessed using objective data, and survey data is (a lot of times) the best option we have. Also, there are strategies to assess socially desirable responding, careless responding, and other issues that are presented by self-report measures.

The optimal way is to include all the stakeholders from the beginning and educate them while listening to their perspective. Also, you can often learn how to communicate what we do in terms of their existing mental model or literature.

2. **Build trust with all parties involved**
One of the biggest things is just building trust. Oftentimes, companies are worried about bringing somebody in and having the employees trust that the data are going to be used in the ways that it should be used.

Sometimes clients [are resistant] because they have seen I-O psychologists in their organization before and feel like they did little to solve whatever they were there to solve. You have to essentially try to rewin the trust of the client. They aren't necessarily mad at you or critical of the science. They thought their time and voice were going to be used somehow to improve the organization. When this didn't happen, their trust was violated. Allow these stakeholders to express their concerns. Giving them a voice and empathizing with them is sometimes all you need to do. It's also a chance to learn more about the organization.

One of the things that I really try to emphasize when I'm talking with clients and with employees of these clients is that we really see ourselves as both top down and bottom up. So working with management to implement solutions that are going to help get the work done, but our own personal ethical calling is that we're there to watch out for the employees, too.

3. **Understand the stakeholder's perspective**
It takes some creativity to overcome the concerns of clients who resist because they don't value our science. Ask them questions about what makes an organization great. Then inject how I-O accomplishes those things. Provide hypothetical examples of a world without our field. Become a pro with analogies and use real-world examples whenever possible.

Always to ask questions to understand where they're coming from. Is it a general world view, a specific experience, or a negative reaction for some other reason? Then, ask about their experiences and show how they have used I-O techniques already in what they do.

I totally get that [concern about survey fatigue]. What I like to say is, from a diagnostic perspective: I don't want to have to ask one more question, whether it's an interview or survey question than I absolutely have to. I don't want to impose one more minute than I have to. But there's times in which we need to do some diagnosis, we've gotta be able to sell them to say, it's targeted, it's focused, there's a reason for it, and it's going to add value.

I find the most compelling arguments come from a place where I show that I'm on their side and want to help them meet their goals and make their lives easier…show them how you're helping them out. Showing that I understand where they are coming from and that I understand their skepticism can be a really helpful tool in these discussions.

I try to convey whatever related research supports my argument and try to show that I understand their skepticism. I may say that I understand a structured interview may feel stiff, and you may feel that you aren't getting the information that you want out of it, but that suggests we should revisit the items to ensure they ask about KSAOs needed for the job rather than do away with interview guides.

It starts by putting yourself into the employees' shoes. People resist for different reasons…and until we understand the source of resistance it's very difficult to be able to come up with a good change management plan.

4. **Illustrate business value and use business terms**

   Illustrate business value using metrics or outcomes business leaders care about. Identify these up front so you can come back and show how you've impacted it. Always show your ROI for a project and provide expected outcomes in the beginning.

   Demonstrate the potential value of your solution through the use of a utility analysis.

   Be sure you're presenting in terms business leaders understand. You want your audience to feel engaged and comfortable with the material you are presenting. If they don't understand it, they likely are not going to be supportive of or receptive to it.

   For business audiences, it's really about framing the question we are trying to answer, and if you come at it from the business question angle, it can help inoculate against some of the challenges with getting the data. I think if you make a logical case for what the question is you're trying to answer, and what are the types of data sources that are needed to answer it, you can work backwards into it.

5. **Be creative and resourceful**

   For self-report, I try to find at least one variable that only makes sense as a self-report and use that as an example. I usually go with perceived support. Who else is going to know better than you whether you feel supported at work by your coworker or supervisor.

   In instances where clients don't believe we can help them because we aren't experts in their field, I try to emphasize collaboration. Remind them that they are also an expert. For instance, with training development, I would remind clients that they are the expert in the content area and I am the expert in training. We need each other to create a great product.

In some cases we might be able to integrate in with other data collections that are being gathered, sometimes that's a way to add a couple questions to an existing type of survey…and obviously if there are ways to capture that data aside from surveys, I think that's beneficial…for us to make use of data that organizations already have and make sure we're getting as much from that before initiating a new research effort…can reduce the strain placed on employees and managers and those participating in the research.

Summary

In this column, I-O professionals identified common concerns with applied organizational research and provided advice for overcoming these concerns through effective translation. The experts' advice generally fell under five different categories: (a) Educate the stakeholders, (b) build trust with all parties, (c) understand the stakeholders' perspective, (d) demonstrate business value and use business terminology, and (e) be creative and resourceful.

Thank you to our contributors and readers, and remember to refer to our handy guide when preparing to present to an audience that may not be familiar with I-O research methods!

Learning About Learning: Who Are L&D Employees?

Amy DuVernet and Tom Whelan
Training Industry, Inc.

So far in this column, we've talked about the definition of training as understood by most companies' L&D departments and what the structure of training functions typically looks like in organizations. In this column, we're going to describe the wide variety of job roles that commonly fall underneath the category of L&D and what educational backgrounds the kind of individuals in such roles tend to possess—in other words, *who are these people?*

Why should we be concerned with this? Frankly, it's because those in L&D roles often speak a language that isn't borne of exposure to I-O and the best practices our collective research suggests. Is this something to bemoan? Hopefully the answer is obvious that no, it's not, and represents opportunities and avenues for I-Os to educate and inform practice. But we need to relate *our* expertise to their problems and communicate *our* data-driven insights in a language that's common to both parties. This means not only is the onus on I-Os to bring our knowledge and skills to the table but to do our homework to ensure we're not seen as irrelevant to such conversations or hopelessly out of touch with the day-to-day reality of corporate L&D. We have to appear knowledgeable to these stakeholders using their own vernacular. If we can't understand where these professionals are coming from and what types of backgrounds are common to employees in these roles, we might erroneously conclude that they don't know what they're doing. Whether true or not in actuality, this is *our* perspective, and the other side of the table may be likely to draw the same conclusion about us if we can't (or worse, won't) adapt to their understanding of organizational context and processes. It doesn't take a psychologist to realize that situation is a lose–lose. So, let's learn more about how and where our brothers and sisters in L&D

grew up, and in the process, how the field of I-O might best relate to these professionals and build bridges that can pool our collective skills and expertise to solve organizational problems.

Roles

A quick search of Indeed.com resulted in approximately 1.4 million job listings with the word "training" in the title (as of late 2016). This appears slightly out-of-step with O*NET's online database, for although 469 occupations result from quick search of the word "training," only four appear directly relevant to corporate L&D: training and development managers, training and development specialists, instructional designers and technologists, and instructional coordinators. Several others have indirect relevance including human resources managers, human resources specialists, human resources assistants, business intelligence analysts, equal opportunity representatives and officers, and—ahem, quite naturally—I-O psychologists. In 2014, James Tyler put together a list of 67 different L&D job titles that reveals a plethora of related roles that canvass an array of skillsets and job tasks, though often flying under all sorts of banners and described with opaque language. (For example, would you assume "business interface representative" or "performance consultant" are jobs that routinely deal with L&D issues?) Although the titles may differ from company to company, L&D roles can generally be organized into a small number of categories. What might be nonobvious for I-Os with limited exposure to the world of L&D is the way that these categories signal how the responsibilities of L&D functions are distributed across jobs.

There are four basic distinctions in functional training processes: administration, content development, training delivery, and technology implementation (Training Process Framework; Training Industry, n.d.b). Within each of these divisions are a number distinct job roles. Table 1 maps these four categories to common job titles that one might find in an L&D department, along with general information concerning the duties associated with each process category.

Table 1
Common L&D Job Functions, Roles, and Responsibilities

Functional process	Example l&D roles	General responsibilities
Administration	• Learning program administrator • Learning analyst • Community manager • Program coordinator • Learning consultant	Manages, coordinates, and oversees the daily operations part or all of the training organization, including scheduling, tracking and measuring learning outcomes
Content development	• Instructional/eLearning designer • Content curator • Curriculum developer/architect	Develops and refines courses, workshops, programs, and training initiatives
Training delivery	• Facilitator • Virtual instructor • Trainer • Training specialist	Manages and facilitates the delivery of training programs and content both in the classroom and across other delivery modalities
Technology implementation	• Instructional/learning technologist • Learning system/lms engineer • Capability architect	Manages, sets up, and provides support for the use of learning technologies, including those used for content creation, delivery, and administration

Partnering with L&D professionals can involve interacting with many of these roles. For example, **Reanna Harman**, vice president and director of Consulting Practice at ALPS Solutions, said she spends "most of [her] time interacting with program managers, directors, and administrators to design and deliver training-related consulting services and projects. In serving our clients, we often partner with other organizations and independent contractors." As we alluded to earlier in this column, the fluidity of these interactions depends on being able to speak a common language and understand where L&D professionals see value in training outcomes. Sarah Bienkowski, learning analyst with Red Hat University, stated that when communicating with L&D stakeholders, data visualization can be a crucial skill when it comes to "making the data easy to act on—not just pretty and accessible, but it has to be actionable… it's important to know what matters to people." We don't all possess an innate ability to communicate with others outside of our field with ease nor is such a skill necessarily bestowed on us during graduate school—where we're admittedly surrounded by other I-Os that we can make statistics jokes with and reference theories by the author name(s) and publication year of a primary article. It'd make for a tough crowd, at best, to attempt to tell those same jokes in a conference room of L&D professionals. Consequently, we need to be able to communicate our (hopefully) deep expertise on L&D-related concerns using tools and concepts that can be grasped by a non-I-O audience. That said, there's a concurrent humility that should caveat our expertise, through an acknowledgement that the I-O lens perhaps is not the only

valid perspective through which to see the strategy, delivery, and evaluation of training. As noted by Reanna Harman, "When you start to see training through the eyes of those who participate at different levels, you gain a deeper appreciation for training as a system."

Educational Backgrounds

Understanding the common backgrounds of L&D professionals provides insight into the general perspectives they hold. For instance, those with adult education backgrounds may possess considerable background knowledge of psychological research. However, they may not use the same lingo that I-Os are accustomed to. Similarly, L&D professionals coming from business and management backgrounds likely share common ground through which I-Os can foster professional working relationships with them. Still, there are innumerable instances of HR analysts with unrelated degrees and little (if any) discernable statistics training. Is the latter anything to decry when it comes to the universe of corporate training? Not necessarily, but it can result in corporate decision making that leads to undesirable outcomes, such as a multi-faceted training evaluation strategy limited by a lack of familiarity with training evaluation frameworks. Part of the challenge to I-Os working in such contexts is to advise on the ethics of such decisions while acknowledging that those we're trying to advise come not only from a different understanding of L&D but also that deep consideration of such decisions may sometimes be required to take a backseat to the larger constellation of HR functions in an organization. For example, **Jennifer Lindberg McGinnis**, Organizational Effectiveness manager in the Talent Management division of the North Carolina Office of State Human Resources (OSHR), noted, "many agency L&D professionals are HR generalists who have many other HR responsibilities on their plates. This can create ongoing challenges for prioritizing L&D above more operationally focused HR duties." This makes sharing a common language all the more critical, such that as an I-O one can appeal to stakeholders using the most concise, impactful, and business-relevant arguments when time and attention spans are short.

Lest it seem that we're dogging our friends in L&D, however, they do have something we tend not to: a different set of experiences and perspectives with corporate training that are often invaluable to L&D decision making and operations. **Casey Mulqueen**, senior director of Learning and Development at the TRACOM Group, noted, "I'm constantly impressed by how talented L&D people are…a lot of them are engineers, accountants, financial analysts, lawyers, machinists, you name it. In their organizations, they often rotate into the L&D function and fall in love with it, so they stick around and become training professionals. These are great people to work with because they understand their businesses better than anyone, and they recognize how training fits in their cultures and improves the effectiveness of their people and organizations." As we've suggested several times in this column, I-Os are best served understanding these backgrounds and approaching our relationships with L&D professionals as collaborative. Their approaches and proposed solutions will be different than ours but not necessarily incorrect, and both sides have much to learn from the other. Below we offer some insight into the common educational backgrounds of traditional L&D professionals.

At a minimum, most individuals working in the L&D field tend to hold a bachelor's degree (58%), though a large percentage also possess an advanced degree—O*NET reports that 17% of training

specialists, 65% of instructional designers, and 21% of training managers possess a master's degree ([National Center for O*NET Development, 2016](#)). More data regarding training professional educational backgrounds can be found in a recent study into the processes and practices that define high performing training organizations. This research revealed that 68% of training managers possess at least a bachelor's degree and 44% of those managers hold a master's or PhD (Training Industry, 2016). These advanced degrees vary in focus, including adult education, corporate training, human resources, instructional design, business administration, and other education-related fields. These fields are very much aligned with the types of responsibilities described above in Table 1. When we have to interact with L&D professionals who hail from these backgrounds, it pays to do a little reconnaissance on what types of concepts might overlap between their fields and I-O to draw parallels and capitalize on the technical knowledge that they can bring to the table.

Higher education is not the only means through which L&D professionals land in these jobs, however. Many individuals in L&D roles also hold professional certifications related to training. According to O*NET, 11% of training specialists hold a postbaccalaureate certificate (National Center for O*NET Development) and other sources report up to 26% of training managers holding training related certifications (Training Industry, 2016). Training certifications run the gambit of focus from instructional (e.g., COLF, Langevin) to managerial (e.g., CPTM), and still others offer more general certifications across L&D occupations (e.g., CPLP, CTP; see [Certifications for Training Professionals](#) (Training Industry, n.d.a) for more information on these and other certifications). Such certifications, even if they seem like a bit of a "crash course" compared to university training, provide inroads for professionals to contribute to and significantly enrich the diversity of opinions in an organization's training function.

An obvious question might be, how many I-Os are hiding among these L&D professionals? The answer seems to be not that many. Jennifer Lindberg McGinnis noted, "other than me, I know of a whopping two agency personnel with backgrounds in I-O." Similarly, Casey Mulqueen said, "occasionally I'll encounter an I-O person within a client organization, but they usually aren't in the L&D department." That said, Sarah Bienkowski stated that in her experience at Red Hat, "business people very much value I-Os and know the value we bring." Although that may not be the case at every organization (yet), it speaks to the value that I-Os *can* bring to the table when we partner with L&D professionals. But it also underscores another important point—I-O has not widely infiltrated the field of corporate training. Though admittedly a speculative explanation, this could be due to the fact that there *are* L&D professionals from other backgrounds at the helm of corporate training, whereas other organizational functions such as selection and employee assessment require a level of statistical sophistication by their nature that may not be part of the curricula in adult education, instructional design, business administration, and related fields. So, where one might be more likely to find an I-O dealing with enterprise surveys or hiring pipelines, we're less likely to be found in L&D hallways. As organizations focus more on evaluation and metrics, however, and buzzwords like "big data" pique executive curiosities, I-O can and should be engaging in these strategic discussions.

Hopefully this installment of our column has helped to shed light on where L&D professionals are coming from and how we as a field might engage with them most effectively. In our next column,

we'll discuss some of the trends in the corporate training market that many L&D professionals have been engaged with in recent years. We hope that you had a great new year, and we look forward to continuing our discussion of L&D into 2017!

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International Practice Forum

Lynda Zugec
The Workforce Consultants

Ever wonder what is happening within I-O psychology in Latin America? In this issue of the International Practice Forum, we got together with Iúri, Laura, and Caio to discuss organizational and work psychology in Brazil. Read on for a brief snapshot of the country, recent initiatives, and ongoing projects and research!

Organizational and Work Psychology in Brazil:
A Traditional Field and Its Reconstruction Processes

Iúri Novaes Luna, Laura Cardoni Ruffier, and Caio Henrique de Mendonça Chaves

When the development and institutionalization of organizational and work psychology (OWP) in Brazil began in the early 20th century, it was already marked by challenges and has been ever since. Brazil is a country with an exuberant nature, an immensely warm-hearted nation, and a tremendous geographical dimension. Nonetheless, it is also a country with substantial contrasts and inequalities.

According to the Instituto Brasileiro de Geografía e Estatística–IBGE[1] (2014), Brazil has more than 203 million inhabitants, of which 105 million are considered economically active. With respect to school attendance rates, the rate of completion is 80.9% for primary schools and 60.8% for high schools. The average amount of schooling individuals 25 and older hold equates to 7.8

years. When looking at the average peaks of the five main regions of the country (North, Northeast, Southeast, South, and Midwest) one can find vast discrepancies. The same observation can be made with the average peaks in relation to gender, color or race, age, monthly income, and the situation of residence (urban or rural).

Aiming to promote productivity, health, safety, and welfare for people in their work environment, the recent history of OWP in Brazil can be characterized as having an emerging leadership role (understanding that, since Taylorism, the entrance of foreign content has always been a given fact). Therefore, it is possible to highlight an initial and significant contribution of OWP to the Brazilian landscape. Highlighting these contributions reinforces the identity of this area of study within the Brazilian context and defines its boundaries and intersections with management and, more specifically, the management of human resources. Although still fairly recent, incoming foreign production gradually blends with national production and international partnerships evolve.

Despite the existing controversies regarding the term "Organizational and Work Psychology," publications and national scientific events already enable a shared understanding among many professionals and scholars in the field.

In the last few years the OWP has expanded in Brazil. This progress is an outcome of *lato sensu* and *stricto sensu* graduate and postgraduate programs as specializations, master's and doctorate programs, the creation of the Associação Brasileira de Psicologia Organizacional (SBPOT),[2] as well as biannual meetings of professionals, scholars, and students in the Congressos Brasileiros de Psicologia Organizacional e do Trabalho (CBPOT),[3] the journal *Revista de Psicologia: Organizações e Trabalho* (rPOT),[4] and books such as *Processos psicossociais nas organizações e no trabalho* (2013)[5]; *O trabalho e as organizações: atuações a partir da Psicologia* (2013)[6]; *Psicologia, organizações e Trabalho no Brasil* (2014)[7]; and *Dicionário de psicologia do trabalho e das organizações* (2014).[8]

These books, among others, present up-to-date theoretical and methodological references for training, research, and intervention of OWP in Brazil. The main topics relate to Brazilian and worldwide work contexts, as well as the study of new organizational models and management processes. These are: (a) the micro and meso organizational aspects, including the study of people and groups in the workplace; (b) welfare and health at work; (c) the development of knowledge in OWP and the professional practice of psychologists in the field. This third topic involves innovative initiatives of OWP in Brazil, namely: (a) modernization of traditional practices, such as recruitment and selection, training, and performance assessment; (b) the emergence of new practices, often linked to the arrangement of psychologists into multidisciplinary teams in human resources management areas such as labor organization, turnover, compensation, benefits, human resources management planning, and programs for the improvement of life at work; (c) increases in the quality of intervention in organizational and work issues, including the introduction of conceptual analyses, diagnostics based on research, and activities at the strategic level; and (d) interventions that span beyond organizations and reach broader worker categories due to employment crises and to changes in careers.

In terms of research, a few graduate and postgraduate psychology programs developed in Brazilian federal universities are worth noting. The universities listed below share a common goal to promote work environments with a good quality of life, worker well-being, employee development, and the creation of healthy, productive, and socially responsible organizations: Universidade Federal da Bahia (UFBA),[9] Universidade Federal de Brasília (UnB),[10] Universidade Federal de Minas Gerais (UFMG),[11] and Universidade Federal de Santa Catarina (UFSC).[12]

Furthermore, in 2001, SBPOT[13] and rPOT[14] were founded, which are at the forefront of the new phase of OWP in Brazil. The association, assembled by a group of Brazilian scholars and professionals, gathered together based on a shared interest: the development of the field of OWP in Brazil. Their aim is to stimulate the production and dissemination of scientific and technological knowledge. Additionally, in 2004 the same group held the first Congresso Brasileiro de Psicologia Organizacional e do Trabalho (CBPOT),[15] which will reach its seventh edition in 2016.[16]
It is important to mention the thematic areas of the VII CBPOT, which took place in Brasilia in July 2016:

1. Psychologist Training and Practice
   - Innovative practice experiences
   - Training and educational policies in OWP
   - History and knowledge boundaries in the field of OWP
   - Politics, production, and dissemination of knowledge in the field of OWP

2. Human Behavior at Work and Organizations
   - Learning at work
   - Assessment and measures of employee levels, teams, programs, and organizations
   - Climate, culture and human values in work and organizations
   - Diversity and inclusion in organizations and work
   - Work teams
   - Human factors at work and organizations
   - Changes in organizations
   - Psychology, consumer behavior, and marketing
   - Linkages with work: motivation, involvement, satisfaction, commitment

3. Human Resources Management in Organizations
   - Performance appraisal
   - Diagnostics and management planning
   - Career management, positions, and salaries
   - Recruitment and selection
   - Training, development, and employee education

4. Public and Organizational Policies
   - Social responsibility and management
   - Organizational maturity
   - Conditions and safety policies

- Employee qualification policies
- Employee health policies
- Work and employment policies

5. Work, Family, and Society
- Retirement
- Ergonomics and working conditions
- Health, well-being, emotions, and quality of work life
- Work meaning, work and other scopes of life: family, religion, and leisure
- Work, identity, and subjectivity
- Work, violence, and social exclusion
- Ageing, work, and organizations

6. Work Relations, Organizations, and Society
- Collective mobilizations
- Solidarity organizations and cooperatives
- Power relations and employees
- Unionism and new forms of organized work associations

For the first time, CBPOT performed "Consulting Sessions" as one of the congress activities, designed into six themes: performance management; training, development, and education; career management, job and salary; systems and proficiency management models; team development; and retirement.

Funded by the Conselho Nacional de Desenvolvimento Científico e Tecnológico[17] (CNPq) and the agency of Ministério da Ciência, Tecnologia e Inovação[18] (MCTI), the research on Talent Retention that was developed by our research team and composed by researchers from two institutions from the South of Brazil (specifically the state of Santa Catarina)*:* Universidade do Sul de Santa Catarina[19] (UNISUL) and Universidade Federal de Santa Catarina[20] (UFSC), illustrates one of the innovative OWP movements in Brazil and stands in the wake of new practices embraced by psychologists within organizations.

Brazilian research on talent retention in public and private organizations is still at an early stage, generally focusing on strategic dimensions, individualized human resource management, prospects for new and upcoming generations, as well as topics related to Brazilian public administration.

Our team engaged in research to develop an instrument for organizational diagnosis processes in career management by investigating talent retention strategies used by 16 private companies of medium and large size from the state of Santa Catarina, located in the South of Brazil. Concurrently, we seek to examine the values that underlie talent management (TM) retention strategies within the investigated organizations. We are investigating economic and noneconomic values under the TM retention practices found in these workplaces. The former values

are related to monetary value or commodities that can be exchanged to some amount of monetary value, whereas the latter regard practices without any direct economic compensation to employees. The results of our research show that a significant number of practices are associated with noneconomic values. However, the practices oriented toward economic values were seen as essential by all organizations, because they all have at least one of these practices. Practices that were oriented toward noneconomic values were presented by greater heterogeneity among organizations. Thus, we emphasize the importance of further discussion on talent retention practices oriented towards noneconomic values and the incorporation of these into management strategies and career development.

For additional information about I-O psychology in Brazil or the work of our research team, please send an email to the following: psicologiadotrabalho@contato.ufsc.br.

Considering the challenges that OWP has been facing in our country since the beginning of this century, ongoing exchanges and international partnerships have been considered desirable in efforts to establish a well-defined identity. We understand that the development of this extremely important field of psychology should be guided primarily by a commitment to the wellbeing and fulfillment of people in their workplaces and a reduction of inequalities that serve to guarantee the sustainable development of healthy, productive, and responsible organizations. As Brazilian OWP psychologists, we welcome engagement with the international I-O psychology community in order to make this a reality.

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WE ARE LOOKING FOR YOU AND YOUR INPUT! We are calling upon you, the global I-O community, to reach out and submit topic ideas for future columns. Give us your insights from lessons learned in your practice. We are always seeking global contributors!

To provide any feedback or insights on the International Practice Forum, please send an email to the following address: Lynda.Zugec@TheWorkforceConsultants.com

Notes

[1] Instituto Brasileiro de Geografía e Estatística–IBGE: Brazilian Institute of Geography and Statistics

[2] Associação Brasileira de Psicologia Organizacional (SBPOT): The Brazilian Association of Organizational and Work Psychology

[3] Congressos Brasileiros de Psicologia Organizacional e do Trabalho (CBPOT): Brazilian Congress of Organizational and Work Psychology

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[8] *Dicionário de psicologia do trabalho e das organizações* (2014): A dictionary called *Dictionary of Organizational and Work Psychology*; published by Pedro Fernando Bendassolli and Jairo Eduardo Borges-Andrade

[9] Universidade Federal da Bahia (UnB): http://www.pospsi.ufba.br

[10] Universidade Federal de Brasília (UnB): http://www.psto.com.br

[11] Universidade Federal de Minas Gerais (UFMG): http://www.fafich.ufmg.br/pospsicologia

[12] Universidade Federal de Santa Catarina (UFSC): http://ppgp.ufsc.br

[13] SBPOT: http://www.sbpot.org.br

[14] rPOT : http://pepsic.bvsalud.org/scielo.php?script=sci_serial&pid=1984-6657

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[16] CBPOT Seventh Edition (http://cbpot2016.sbpot.org.br/site/principal.html)

[17] Conselho Nacional de Desenvolvimento Científico e Tecnológico: Scientific and Technological Development National Council

[18] Ministério da Ciência, Tecnologia e Inovação: Ministry of Science, Technology and Innovation

[19] Universidade do Sul de Santa Catarina*:* University of South of Santa Catarina

[20] Universidade Federal de Santa Catarina*:* Federal University of Santa Catarina

Bringing Education to Life: Creatively Applying and Transferring I-O

Thomas Sasso, Jessica Sorenson, and Grace Ewles
University of Guelph

Last month a few I-O graduate students from the University of Guelph went to a local escape room. For those unfamiliar with these locations, groups pay to be locked in a room and must solve a series of riddles, clues, and tasks, usually based around a story or theme, in order to free themselves. Groups are challenged to achieve a series of difficult tasks in set timelines, engage in innovative and critical thinking about conventional items, and in turn establish informal group dynamics (for an entertaining demonstration of this type of activity please have a look at this clip from the Ellen DeGeneres show). As our group struggled through the series of required tasks, one of the authors of this column turned to another author and said, "How many I-O psychology students does it take to get out of a locked room?"

This seemingly innocuous joke sparked an epiphanous moment. Here were a group of graduate students with a range of expertise within I-O psychology, and we had failed to frame our actions in this activity with any reference to our areas of expertise or best practices in our field of study. Why hadn't we delegated tasks based on different competencies? Where was our goal setting before we started? How come we didn't establish a communication strategy for information sharing or a leadership system? Where was our people management and task organization?

For individuals inundated in the applied focus of our field, we didn't recognize the opportunity to use our discipline to help us succeed in our everyday life. As professionals and students of I-O psychology, we should be excited to leverage our expertise in our lives outside of research, academia, or practical work. There should be enthusiasm around integrating our expertise into our lives to enhance our experiences and demonstrate to ourselves, and the world around us, that I-O psychology has a place in contemporary society and everyday topics. I-O psychology isn't just an academic discipline and doesn't only have relevance to traditional work domains. As graduate students, we should be able to pull examples from our lives to help communicate our value to those who don't know about our field.

In this article we attempt to demonstrate that what we learn in the classroom and produce in our research has a place in our daily experiences. We turned a critical eye on our lives and have found ways that if we think about our expertise we can see I-O psychology everywhere. Rather than creating a long list of ways we have seen our field of study in the world, we use two examples to demonstrate the value of a critical I-O perspective to make the value of our degrees more apparent to those around us. Through the rest of this column we hope to demonstrate that graduate students can find ways to make I-O psychology real to our families, friends, coworkers, peers, and strangers who might otherwise struggle to understand or fully appreciate the wonderful field that is I-O psychology.

Seeing I-O in Unlikely Places

We all have our vices in life, for many of us studying psychology a particular vice or guilty pleasure is reality television. *Masterchef, The Bachelorette, RuPaul's Drag Race*... we all have some program that interests us or helps us escape from our work at the end of the day. It is easy to rationalize these programs as an activity completely separate from our research or practice. What we often fail to grasp is the relevance of I-O concepts and principles within these seemingly unrelated domains. In particular, the universal nature of our discipline becomes apparent when exploring the interpersonal or team dynamics that occur when valued rewards are at stake, including money, fame, and power.

To explore the unique application of I-O psychology to reality television we can take a closer look at *Survivor*, one of the longest running reality shows to date. *Survivor* premiered in 1997 and has had 32 (mostly) successful seasons. It is a cultural phenomenon that has persisted over time, with an avid fan base and huge cultural impact. For those who are unfamiliar, individuals are placed on separate teams and compete for prizes and immunity. Teams that are unsuccessful must eliminate one member of their group from the show through an anonymous vote. As the weeks progress, numbers dwindle, power dynamics change, teams swap and merge members, and in the end there are three final contestants. The winner of *Survivor*, and $1,000,000.00, is determined by a final vote by the eliminated cast members for one of the final three.

Throughout the seasons of *Survivor*, gameplay has evolved as individuals use strategy and power to support their progression to the final three. As students and practitioners of I-O psychology there are some fundamental concepts that have become evident as successful tactics (we recognize after 32 seasons there are anecdotal exceptions to each of our points).

First, **interpersonal trust** is a key component to success in the game. Although all players require a healthy dose of scepticism towards their tribe members and fellow contestants (lest they be blindsided in a vote), alliances can only advance in the game when there is some trust and commitment built between contestants. Individuals who have not built at least a few trusting relationships seldom make it far in the game. Similarly, unlikeable and untrustworthy contestants are quick to be eliminated as they create divisive team dynamics.

Survivor is a ripe example to observe the outcomes of different leadership types among different interpersonal groups. The **authoritative leader** is often voted out of the game early when they have abused their power. There are also a number of examples of the **glass cliff** in which women and racial minorities on the show have taken more leadership roles during precarious moments in a season, or to spearhead a major shift, only to experience the backlash of the tribe when failure occurs. We could write a whole article on the **gender roles** and **gender norms** that *Survivor* perpetuates and how these parallel complexities of gender diversity in the workforce.

As tribes are split apart, merged, and members are removed from the game we are able to witness examples of **group cohesion**, **interpersonal conflict, communication styles**, and **influence**

strategies/impression management. There is perhaps no better example of impression management than observing a tribal council and seeing contestants reframe experiences to convince others to keep them in the game.

Finally, as we watch *Survivor*, we can use our I-O perspectives to examine and critically think about **performance**. *Survivor* demonstrates much of what we know about performance. Physical and mental exhaustion are a detriment to performance. Psychological burnout can make you do foolish things. There are ranges of competencies that support individual success and not all skills and abilities can be trained or learned quickly (e.g., verbally guiding blindfolded team members through an obstacle course).

We can examine both industrial and organizational principles in each aspect of *Survivor*, from how performance is measured and assessed to the interpersonal dynamics that occur within teams. Within this domain, it is not necessarily the best performer; rather, it is the performer who knows how to best use their skills and expertise to support long-term success. Until an I-O expert competes on *Survivor*, we can only speculate on how our skills and expertise would translate into practice... and potentially a million dollars.

Using popular culture references or ongoing social topics (similar to the column in the last edition of *TIP* about I-O and elections) can be a great way to teach a lay audience about what we do in I-O. A general audience might not be able to readily understand the complexities of minority stress, resources and demands, impression management, or functional job analysis. But if we can parallel our learnings as graduate students in this field to contemporary topics we just might be able to showcase why what we do is relevant.

The Value of Word of Mouth

Recently, one of our *TIP* columnists was talking to someone about I-O. For the purposes of this column, we will refer to this person as Sam. Thanks to previous conversations, Sam understood what I-O psychology is and was aware of the specific areas where the columnist has expertise, including training development.

In Sam's current job the company's engagement survey revealed an issue with their training structure, and Sam had been asked to engage in part of the discussion on what to do about this issue. Through this discussion Sam noted a few things and thought the columnist might be able to provide some insight into the approach to organizational training design. Specifically, Sam wondered where the best place to start would be and what information the organization would need to gather. The organization had already discussed gathering information on all current training efforts, but Sam noted that collecting job descriptions might help guide them in establishing where there are gaps in current training efforts. The columnist was able to provide Sam comfort, reassuring them that both ideas were good first steps. Additionally, the columnist provided further guidance on what other information could be gathered, including performance measures, a job analysis to more accurately determine the requirements for each job, and a needs assessment to determine the current effectiveness of current training efforts. Sam was also intrigued to hear

that someone could take on this type of endeavour internally, such as creating a position in charge of training and development, or contracted out to a consulting firm.

Although Sam lacks the organizational power to initiate a hiring process or contract out work, the columnist was able to provide further insight and reassure Sam's hunch about gathering job description information. By engaging in this conversation the columnist was able to provide an outside individual with a greater understanding of I-O, which may give them the confidence they need to further inform and educate others about their organizational issue. Often, such informal conversations are taken for granted, but these connections provide an opportunity to engage others in I-O concepts, help disseminate findings and expertise, and promote a positive reputation for our field. This is a good reminder that there are many opportunities for us to engage with fellow experts, businesses, and the general public in a positive way through informal channels.

Conclusion

As a field, we tend to isolate the application of I-O concepts to traditionally defined academic and practical settings. However, by doing so we limit the applicability of our field and minimize public awareness of our areas of expertise. By bringing our education to life in these unlikely places, we broaden our perspective and highlight the universal nature of our field. Through informal conversations we can transfer our knowledge and understanding to others and increase the public awareness of our field. By applying I-O concepts in common examples we broaden our understanding, deepen our own knowledge, and gather impactful cases for teaching others (and potentially win a million dollars).

For our next *TIP* column, we hope to inspire readers further by examining the development of soft, transferable skills through various service activities, such as sitting on a board of directors, volunteering with interest groups and professional associations, unions, or in other governance bodies on and off campus. As service often gets overlooked within graduate education, we hope to provide recognition to those engaging in service, show how service is beneficial to the development of graduate students, and encourage others to serve.

As always, feel free to send any questions, comments/suggestions to jsorenso@uoguelph.ca and/or engage with any of the columnists over Twitter (@JessPSYC; @grace_ewles; @t_sasso).

I-O Outside I-O: A Quarterly Review of Relevant Research From Other Disciplines

Mark Alan Smith
CEB

Alex Alonso
Society for Human Resource Management

Do you ever read a headline in the popular press and say, "That can't be! Those reporters have it all wrong!?" Do you ever receive your APA journals summary, read an abstract from a non-I-O journal, and ask yourself what that means for your practice? Do you ever think about multidisciplinary research and examine how other disciplines look at our issues of the day? If you answered yes to any of these questions then this column is for you.

I-O outside I-O is a quarterly research review designed to highlight important potentially relevant research taking place outside the field of I-O psychology. Each research review will provide key insights into the work and how it relates to I-O. Each research review will focus on providing insights and implications for I-O researchers and practitioners.

For each column, we will focus our efforts on scanning research from several fields including (but not limited to) economics, organizational strategy, cognitive psychology, educational psychology, and clinical psychology. Then, we will review the article from the perspective of I-O psychology. In conducting each review, we will evaluate the potential impact of this research on research and practice within our field, as well as how they might be used in multidisciplinary efforts. For example, when research from other fields on the topic of coaching has implications for our field, our review will strive to provide important perspectives that can help practitioners integrate this finding into their work.

As a way to ease into this type of column, we decided to keep our reviews in fields closely aligned with I-O psychology especially as it relates to assessment—clinical psychology and educational psychology. Both articles relate to the broad area of learning and include some good insights that will likely ring true to many I-O psychologists. In particular, our first review looks into the need for supervision and coaching when learning new applied skills, and our second review examines the role of working memory training on enhancing cognitive ability. We hope you enjoy our reviews and share your feedback as this column evolves. Tell us how you would use this information to affect your practice or research.

In this recent article from a top clinical psychology journal, the researchers studied the usefulness of cognitive-behavioral therapy (CBT) training for therapists that is delivered via the Internet. For those of us outside of the clinical world, it is important to know that research has supported the use of CBT for a number of clinical conditions (including depression, anxiety, and PTSD). In particular, this form of therapy focuses on helping individuals develop personal coping strategies that focus on solving current problems and changing unhelpful thought/belief/attitude patterns in cognitions, behaviors, and emotions. At this point, clinicians are interested in ramping up the usage of CBT, and Internet-based training offers this type of scalability.

Method

61 therapists from Russia and Ukraine were randomized into three conditions: (a) nontraining control, (b) Internet-based training with minimal follow up, and (c) Internet-based training with three Skype-based follow-up meetings (30 minutes each). Therapists' CBT skills were assessed by blind third-party evaluators who rated recordings of their treatment sessions.

Findings

Their results showed that therapists who received CBT training with Skype follow-up supervision showed significant improvement in their therapy skills when compared to both the control group and the group of therapists who received training and no further supervision. Although they did not compare the internet training to an in-person training session, these findings show that Internet training with video chat follow up can be effective for training important knowledge and skills.

Thoughts From an I-O Perspective

In our opinion, there are a couple of main takeaways from this research. The first involves how to best train people on new skills. This study showed that the use of internet training with minimal follow-up was only marginally effective. However, when used in conjunction with coaching (via video chat in this research), skills improved markedly. In our own practice of I-O, we seem to find similar results for training of employees to conduct interviews; training on how to do it is necessary, but adding the component of coaching after practice interviews really makes it effective.

Another takeaway (from this study and other clinical research) involves the helpfulness of CBT as a broad tool that has been shown to help many people re-shape the way that they are thinking. While this was developed and has been used for clinical purposes, it might be possible to take the fundamentals of this type of intervention and use it with non-clinical groups for other

purposes (e.g., improving employee performance). For example, we could see this as a good approach to use to increase the effectiveness of salespeople who have a great fear of rejection.

In this recent article from a psychological review journal, educational psychologists conducted a meta-analysis to examine the effects of training that is designed to improve working memory on various types of ability measures. For those of us outside of educational psychology, it is important to know that many researchers have supported the use of working memory training for improving assessment scores (including measures of intelligence). This supposition was based upon the idea that working memory training can be used to increase capacity and thus have long-term effects on cognition and cognitive abilities, such as nonverbal ability, verbal ability, word decoding, reading comprehension, or arithmetic. The potential implications for I-O psychology are far reaching because of our use of ability tests for employee selection purposes. In particular, this meta-analysis can help to evaluate whether or not applicants would benefit by undergoing this type of test preparation prior to the testing process.

Method

Researchers conducted a meta-analysis on 87 studies with more than 145 experimental comparisons consisting of pretest-posttest designs for examining the impact of working memory training. Four questions were examined:
1. Does working memory training improve performance on working memory tasks?
2. Does working memory training improve performance on tests of nonverbal skills?
3. Does working memory training improve performance on tests of verbal skills?
4. Is there a relationship between intermediate-transfer and far-transfer effects on specific tests or tasks?

Findings

Their results showed that training to improve working memory can have short-term effects specifically for working memory tasks but not for other tasks or tests. Moreover when correcting for statistical artifacts, the far-transfer impact of working memory training is completely nonexistent, which indicates a seemingly impenetrable limitation on individuals' capacity for working memory.

Thoughts From an I-O Perspective

In our opinion, there are a few main takeaways from this research. The first involves the best approaches for test preparation with potential test takers. Specifically, it is important to focus test preparation on the development of mastery and not the expansion of test-taking abilities.

Although this seems natural to I-O psychologists, it remains a real area of focus for our colleagues in educational testing.

Another takeaway is the implication of the findings on measures for employee selection. Specifically, this hones in on the importance of using cognitive assessments in their purest form without focusing on factors immaterial to actual cognition. These educational psychologists have confirmed concepts we in I-O psychology have known for years: Mental abilities are not as malleable as perceived by other disciplines. Therefore, building training for expanding abilities is an almost fruitless activity, especially when knowledge and skill are best suited for expansion.

Practitioner Forum: An Update From the Professional Practice Committee

Will Shepherd
Chair, Professional Practice Committee

Greeting! My name is Will Shepherd and I have the pleasure of serving as the chair of the Professional Practice Committee (PPC). In January of 2016, James Outtz asked me to serve in this role. I was honored to be asked by Jim for whom I have great respect. He was a great I-O psychologist who cared deeply about SIOP. The PPC Chair also serves as a liaison between the committee and other committee chairs, as well as the SIOP Executive Board (EB), which includes Professional Practice Officer **Rob Silzer.** I appreciate the support and partnership of Rob, who is also a former PPC Chair and who has great passion for the practice of I-O psychology.

Mark Poteet served as the PPC Chair for the previous 3 years. As Mark helped orient me to the role, I was amazed (and a little overwhelmed) at the sheer amount of work he and the rest of the committee had done. Mark has been a great advisor. I am also so grateful for the amazing committee of dedicated volunteers who give of themselves and their time to serve SIOP.

In this article, I want to provide an update on the committee, our goals, and recent accomplishments. Key highlights include:

- **We are having a party!** We are having the first SIOP Professional Practice networking reception on Thursday of the Annual Conference from 6-7 pm
- **We are having a new consortium!** We are having our first Early Career Practitioner Consortium (ECPC) on the Wednesday of the Annual Conference
- **We have a new interactive I-O career path page!** Regardless of where you are in your career journey, this is a great resource for career planning
- **We are starting a newsletter!** We are starting a new Professional Practice Update email newsletter in 2017

SIOP Professional Practice Committee Overview

The mission of the SIOP Professional Practice Committee (PPC) is to "strive to further build and advocate SIOP's brand as the premier authority on workplace psychology and to enhance the practice of workplace psychology by SIOP's members and strategic partners." The PPC is broken down into multiple subcommittees, each working on a different project. PPC members will often work on multiple subcommittees. The entire committee currently meets once per month to provide updates on each project.

The Professional Practice Committee (PPC) currently has 23 members: **Steven Ashworth, Ted Axton, Eric Bookmyer, Laura Byars, Samantha Chau, Vincent Conte, David Dubin, Soner Dumani, Anna Erickson, Meredith Ferro, Natalie Goode, Jerilyn Hayward, Lizzette Lima, Matthew Minton, Mark Morris, Cole Napper, Lesley Perkins, Walter Porr, Joshua Quist, Donna Roland,** William Shepherd, **J. Craig Wallace,** and **Lynda Zugec.**

The four primary goals of the committee are:

1. **Develop resources for practitioners**: including webinars and white papers, some in partnership with other organizations (e.g., SHRM)
2. **Provide practitioner career support**: including the I-O practitioner needs survey; Speed and Group Mentoring programs; support of projects related to I-O careers, business acumen, and salary benchmarking; and the new SIOP conference consortia for early-career practitioners
3. **Scientist–practitioner support**: provide access to research journals through the EBSCO services; highlight scientist–practitioner work though the *TIP* "Bridge" series
4. **Committee communication and development**: communicate the work of the committee to the practitioner community and beyond; maintain and expand committee bench strength

I would like to highlight some of the committee's work in each of four areas.

Goal: Develop Resources for Practitioners

To support our goal of developing resources for practitioners, the committee has focused on developing webinars and white papers that will be of interest and value to practitioners.

FREE Practitioner Mini Webinar Series

Did you know there is a collection of short, research-based webinars on the SIOP.org website at: http://www.siop.org/webinar.aspx? The most recent one is on HR Analytics by **Jeremy Kasle**. Other topics include: Effective Feedback; Best Practices in Employee Engagement; Demystifying Success[I-O]n Planning; Selling I-O: Top Tips for Having More Influence and Impact as a Practitioner; The ROLE Model: Evaluating the Impact of Leadership Development Programs; Telling Your Story to the C-Suite; and Learning Agility. Thanks to Ben Porr for his leadership in the creation of the webinar series. This summer Ben also helped transfer the video content to YouTube to make it even more accessible for SIOP members.

SHRM-SIOP White Paper Series

Did you know the SIOP Professional Practice Committee, with great leadership by David Dubin, has collaborated with the Society for Human Resource Management (SHRM) to produce a series of evidence-based white papers? The series can be found at http://www.siop.org/SIOP-SHRM. In a great example of collaboration between the two organizations, the white papers are also posted to the SHRM website. In a true win–win, the white paper series benefits SIOP members, but it also raises the visibility of our I-O profession to SHRM's membership, which includes over a quarter of a million members in over 150 countries. I thank **Alexander Alonso,** our SIOP Executive Board Communications officer and also SHRM senior vice president of Knowledge Development, and his team for their leadership in bridging the two organizations.

In just the last 2 years, the partnership has resulted in eight white papers, including:

- Evidence-Based Strategies to Improve Workplace Decisions: Small Steps, Big Effects
- Conducting Background Checks for Employee Selection
- Optimizing Perceived Organizational Support to Enhance Employee Engagement
- Strategies for Engaging and Retaining Mature Workers
- Implementing Effective Cyber Security Training for End Users of Computer Networks
- Coaching for Professional Development
- New Talent Strategy: Attract, Process, Educate, Empower, Engage, and Retain the Best
- Competency Modeling Documentation
- Social Science Strategies for Managing Diversity: Industrial and Organizational Opportunities to Enhance

To learn more SHRM–SIOP Science of HR Series, please contact: Ashley Miller (Ashley.Miller@shrm.org) or David Dubin (David@psycharts.com). Note: in addition to the SHRM–SIOP white paper series, there is also another white paper series produced by the International Affairs, Scientific Affairs, and Visibility committees that provides great resources at http://www.siop.org/WhitePapers/default.aspx.

Goal: Provide Practitioner Career Support

To support our goal of providing practitioner career support, one of our initiatives is to develop SIOP's first Early Career Practitioner Consortium (ECPC). Another significant achievement is the release of a new I-O career portal.

NEW Early Career Practitioner Consortium (ECPC)!

The ECPC is a one-day career development experience for I-O professionals who work in non-academic settings. Designed and produced by SIOP's Professional Practice Committee in coordination with the Consortia Committee, the content focuses on the career needs and aspirations of practitioners with up to 5 years of post degree (PhD or terminal master's) work experience.

The EPCP will provide three career development experiences in a one-day program on the Wednesday prior to the annual SIOP Conference:

1. I-O professionals sharing their research and personal experience related to the most prevalent and emerging career trajectories for practitioners with I-O training
2. A self-assessment of participant competencies (hard and soft skills) that match the requirements of these career options
3. Ongoing mentoring from practitioners who represent a diverse group of I-O professionals now engaged in both current and cutting edge practice.

Who should attend? Any I-O practitioner with up to 5 years of professional experience who is interested in learning more about their potential and future in an I-O career.

New I-O Career Path Pages

We are excited about a new web portal with a wealth of information about career paths for I-O psychologists which can be found at http://www.siop.org/CareerPaths. The site is for current or prospective I-O psychologists to explore career options in the field. It includes information about knowledge, skills, abilities, and experiences needed to succeed in different career tracks. Josh Quist has been the leader on this project. We would also like to thank SIOP's Web Content Specialist Jim Rebar for the many hours he has spent working on the project.

Goal: Scientist–Practitioner Support

NEW The Bridge: Connecting Science and Practice Series in TIP

To support our goal of providing visibility and resources to scientist–practitioners, a new *TIP* series called "The Bridge: Connecting Science and Practice" was implemented that features examples of such work. The series is off to a great start under the leadership of column editors Lynda Zugec, Craig Wallace, and Mark Poteet. In fact, they were featured in the *TIP* Editor's Column as having the 5th most popular article in TIP. The first three articles are:

- The Bridge: Connecting Science and Practice:
  http://www.siop.org/tip/april16/534/files/19.html
- Profiles in I-O Psychology Science–Practice Excellence: Bank of America:
  http://www.siop.org/tip/july16/bridge.aspx
- Exploring the Gap Between I-O Trends and the State of Research:
  http://www.siop.org/tip/oct16/bridge.aspx

Please feel free to contact the column editors with any organizations or individuals that you feel may be good to highlight in a future Bridge article.

Goal: Committee Communication and Development

To support our goal of communicating the work of the committee to practitioners, the committee has worked on a new networking reception at the annual conference and a new Professional Practice Update newsletter.

NEW Practitioner Network Reception!

We are having a party! We know that there are many receptions during the SIOP conference, but we would ask you to consider attending the first ever Practitioner Network Reception on Thursday, April 27th in the Southern Hemisphere IV ballroom in the main SIOP Conference hotel (Walt Disney World Swan and Dolphin Hotels).

This reception will provide practitioners, new and old to the SIOP conference, a unique opportunity to network. You will have an opportunity to have a cocktail and appetizers while re-energizing your network and learning about the many resources that the SIOP community can provide to all practitioners, and at the same time reconnecting with colleagues and building new business relationships. I would like to extend my thanks to Jerilyn Hayward and Donna Roland for organizing a great event and to Dave Nershi at the SIOP Administrative Office for sponsoring the program.

Professional Practice Update

The SIOP Executive Board approved a new Professional Practice Update email directed at SIOP Practitioners. Each Professional Practice Update newsletter will have an area of focus (e.g., the next Annual SIOP Conference or LEC Conference, the nomination period for SIOP Fellowship and other awards) and feature links to SIOP.org website and other content that would be of interest to practitioners. Ben Porr, Meredith Ferro, and Eric Bookmyer are working on the inaugural January issue. Thanks to them for their leadership and efforts on this great new channel to communicate with SIOP members!

Summary

As you can see, there are a lot of dedicated, talented SIOP practitioners who are working hard on behalf of the entire SIOP organization with a special focus on their fellow practitioners. Please thank them. Next time, I'll provide an update on speed and group mentoring, the I-O careers study, and our collaboration with the EEOC.

New Local I-O Group in Los Angeles Leads With its Purpose: The People Experience Project

Nazanin Tadjbakhsh, Peter Rutigliano, Anna Erickson
SIOP Local I-O Groups Committee

"Have you ever wondered what would happen, if all the geniuses—the artists, the scientists, the smartest, most creative people in the world decided to actually change it? Where, where could they even do such a thing?" –Hugo, *Tomorrowland* (2015)

In recent issues of *TIP*, the SIOP Local I-O Groups Committee has highlighted the successes of several established local I-O groups such as METRO in New York (Shapiro, Erickson, & Farmer, 2016) and MPPAW in Minnesota (Erickson & Rutigliano, 2016). In this article, we will shift our focus to a local group that is just getting started.

On November 14, The People Experience Project hosted its first chapter meeting in Los Angeles, California. This local I-O group is led with one big dream: to build a strong I-O community in Los Angeles where passionate researchers and practitioners can collaborate and share actionable insights to help enhance the ways people experience work. The group's founding members were moved by **Dr. Steve Kozlowski's** opening keynote at SIOP 2016 where he proposed a top-down and bottom-up multilevel approach in order to maximize the impact of I-O psychology. To execute Steve's vision for a bottom-up approach, the founding members wished to establish a local I-O presence of commune, discussion, and networking in the Los Angeles metro area. The group was spearheaded by graduate students Naz Tadjbakhsh, **Evan Kleiman**, and **Melissa Steach** of Alliant International University-Los Angeles.

As a newly established local grassroots I-O group in Los Angeles, the founding members of The People Experience Project knew they had to provide a compelling reason for people to join. Having liaised with the SIOP Local I-O Group Committee, Naz, Evan, and Melissa had strong examples of other successful local groups to pull from for their own group. After gathering insights and best practices from SIOP's Local I-O Groups Committee members and the Toolkit for Local I-O Groups, the founders knew that they not only wanted this group to promote and advance I-O psychology as a discipline and career but also to facilitate meaningful connections between industry professionals and students in the field looking to grow and make an impact. The Toolkit for Local I-O Groups was particularly helpful in determining the structure of the group and the meeting format. Naz, Evan, and Melissa decided to use a blended approach, kicking off with socializing and networking for the first 30 minutes followed by a speaker to discuss the future of workplace design.

The group has attracted interest from professionals in various stages of their careers, from graduate students to seasoned professionals working in *Fortune* 500 companies. Those who join the The People Experience Project believe in its purpose to use evidence-based practices as a mechanism for developing actionable tools and insights to augment the employee experience through I-O psychology practices.

The greatest challenge in getting the group established has been finding a date and location that would be convenient for enough people to attend. Having established a time and location, there were a number of individuals intending to join the inaugural event, with over 50 people included on the mailing list. Despite some last minute cancellations, those in attendance were actively engaged, resulting in an incredible evening full of thoughtful discussion and genuine connection. For the first event, it was successful in the eyes of the officers as they had accomplished their goal of initiating a strong community for members to grow together and discover how they can each make a bigger impact in their organizations and communities.

The local group's quarterly meetings are hosted at Herman Miller's showroom in Los Angeles, an atmosphere that is as aesthetically appealing and tranquil as it is functional and collaborative. It is evident in each member's reaction when arriving that the connective space sets the mood of relaxed inspiration and excitement. Members naturally convene in the indoor central plaza, a communal space with comfortable seating and refreshments. The coffee shop-like setting facilitates spontaneous discussion in a safe space where members are able to truly engage and connect with one another. As people share their unique experiences, ideas begin to merge together, and this manifests into an impromptu brainstorming session. The iteration of ideas steadily materializes into actionable insights. This is what The People Experience Project is all about—building a strong community that inspires worthwhile discussion and growth among its members who want to make an impact. Those who join are thrilled to come along for the ride and see how far it will go.

The members of the SIOP Local I-O Groups Committee are especially excited about this local group because it serves such an important need within the profession. During the 2016 SIOP conference, we asked attendees stopping at our table to indicate Local I-O Group membership or interest in membership by placing a colored pin on a map. Nearly one quarter (23.3%) of individuals expressing an interest in joining or starting a local group indicated that they were from California, and half of those were from Los Angeles.

If you would like to learn more about The People Experience Project, please contact Naz Tadjbakhsh at ntadjbakhsh@alliant.edu. Membership is free, and the group meets once a quarter. The meeting format blends networking, a guest speaker, and round table discussion. If you are in the Los Angeles looking to push the boundaries in a supportive community where members grow together and make an impact, join us!

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From the Editor: President Trump

Tara Behrend

In a few weeks, we will hold an inauguration ceremony for President Donald Trump in the U.S. To be very clear, SIOP is an international and nonpartisan organization, and *TIP* is an international and nonpartisan publication. The views in this column are my own, and the views presented by editorial columnists are their own. Yet, regardless of nationality or political affiliation, a Trump presidency affects all scientists and practitioners of I-O psychology, and it is worth reflecting on how to make sense of the next 4 years at this moment of unbelievable upheaval. What's more, we can reflect on what our field can do to help understand and direct what happens next.

First, I suspect there will be somewhat dampened enthusiasm for the power of big data to predict the future. Instead, we see again that social scientists need to rely on theory and solid data collection methods to develop useful insights. I-O psychologists can help by being visible and engaging with the public about our skills and value. We can also help by educating ourselves about the world of data. To this point, see this issue's *Crash Course in Machine Learning* and *Modern App* columns to improve your vocabulary on this topic.

Second, the future of science funding is most certainly uncertain. Agencies such as NIH and DoD tend to have bipartisan support. Others, like the Department of Education, may have their budgets cut dramatically, or their funding priorities altered, in ways that limit our ability to do research in those areas. I-O psychologists can help by calling our elected representatives, especially if they sit on the subcommittees that oversee those agencies. Read the GREAT committee's excellent analysis of how our interaction with the federal government might be affected.

Third, women in the workplace will continue to have to battle against those who deny them professional respect on the grounds that they are too ambitious/not ambitious enough, too emotional/not emotional enough, don't smile enough/aren't serious enough, care too much/ too little about their appearance, and so forth. Micro and macro aggressions against women, people of color, people with disabilities, and immigrants have been legitimized and even embraced by the person who is in charge of setting the national tone. I-O psychologists can help by continuing to conduct research about the prevalence and effects of discrimination. I-Os working in organizations can advocate for policies and programs that respect diversity. All of us can ensure that our language and behavior signals our respect for diversity, in and out of the workplace.

I feel compassion for the many people who lost jobs in the past 20 years and never recovered. This must be a focus of social sciences research going forward, so much more than it has been to date. I-O psychology has so much to offer the study of skills development, training, vocational choice, and unemployment effects. The knowledge we have generated about topics like talent management, coaching, and high potentials shouldn't be the sole property of the richest

corporate leaders. Let's figure out how to support small businesses, nonprofit organizations, and new sectors of the economy. Let's be job creators.

This issue of *TIP* has several thoughtful pieces on the occasion of Trump's inauguration. **Allison Gabriel** writes about how she talked with her students after the election. The LGBT committee makes an impassioned call for attention to civil rights challenges that may become salient in the future. **Mike Aamodt** provides an explanation of sex as a BFOQ, an issue that will continue to be relevant as we battle discrimination going forward. Many of your colleagues engage with the trickiest and most interesting issues in the field of I-O psychology. I've organized the election-focused columns into a special section. Read, comment, get in touch with me and let me know what you think.

On What to Say After an Election

Allison S. Gabriel
University of Arizona

If you're like me, the 2016 election couldn't end fast enough—the media coverage was exhausting, social media was a battlefield, and the amount of tension was palpable in the air. I say this as a faculty member working at a university that is a blue dot in a red state. I knew that among my students—many of whom were voting in their first election—there were differences of opinions, and that sometimes the differences were very strong. I teach my two large sections of organizational behavior on Mondays and Wednesdays this semester, which meant that no matter the outcome, I would be teaching the day after the election, and I felt a responsibility to say something to my students. Often, I feel like there is this struggle we have to face as faculty when something is going on in the world—do we say something, or do we just proceed business as usual? I've never been much of the latter, and so it felt odd to consider *not* saying anything when I knew it was going to be the elephant in the ~~room~~ lecture hall. However, that Wednesday morning, I found myself at a loss of words for what exactly it was that I wanted to say. I began texting colleagues at my school and elsewhere, trying to get a sense for what people were going to say, or if they were going to say anything at all. It turns out that most people were in the same situation that I was, in that they wanted to speak, but the words were escaping them. It took me a couple hours that morning to figure out, but eventually I decided to just share my story in a way that I hoped wouldn't alienate anyone in the room. I figured I'd share it here, word-for-word, in hopes that maybe the words speak to some other people out there.

> I thought a lot about what I would say post election day. In fact, I had this conversation with several colleagues when the semester began back in August as the campaigns were reaching their peak, highlighting the fact that I would have class on a Wednesday the day after the election, and I would face this dilemma of whether to speak or whether to say silent. As I've said before, I would be remiss to not comment on major events happening in the world, and an election—for many of you, the first one you were able to vote in—certainly falls into that category.

As an educator, it's not my job to impose my views and political beliefs on anyone in this room, because that's not what civic discourse is about. Instead, I'd like to do what I've done before and offer a personal experience that may prove helpful. My first election happened during 2004 between George Bush and John Kerry. I was in my freshman year of college—my first semester—and found myself exposed to a litany of new ideas and information. I wouldn't say I came from a sheltered upbringing, but I did come from a small town in Pennsylvania where my world comprised mostly people who looked like me, and sounded like me, and felt a lot of the same things that I did. I remember watching the election live—mind you, on a regular old TV that wasn't a flat screen and probably had a VCR built in—with individuals from all over the US, and the world. Some voted for Kerry, some voted for Bush, and some just didn't vote. But, what I remember the most was taking the time to listen to people who were on both sides, trying to understanding why people voted the way they did: Was it personal values, or the way their family voted, or was it something more? As someone who was 18 and relatively green, I found the whole experience a bit intellectually overwhelming and was committed to understand more of the issues so I could make informed judgments moving forward to guide my own vote.

Some of you today in this room are likely excited about the outcome, and some of you also likely have a lot of anxiety and fear. These are real emotions, and ones that shouldn't be packed away somewhere, and the reality is that those emotions would be existing regardless of what the election result ended up being. What I'd like to challenge each of you with today is this: If you voted for Donald Trump, find someone who voted for Hillary Clinton. If you voted for Hillary Clinton, find someone who voted for Donald Trump. Explain why—articulate your thoughts, ideas, and reactions around the election to someone who clearly has opposition to some things that you hold near and dear, and do so in a manner that is compassionate. Often, we silo ourselves. If we're Republican, we watch Fox News; if we're Democrat, we watch MSNBC; and from time to time, we all watch CNN to see if they are using their holograms on live TV. But, by doing this, it becomes harder and harder to see what is happening on the other side. In case you haven't gathered this, I am a firm believer in the value empathy and diversity—not just physical diversity but the diversity of thoughts, ideas, and values. So, if you're frustrated, share that, and get to work to change things. If you're optimistic, figure out why and work to make sure that optimistic view can help as many people as possible. As I said on Monday, and I'll say again, in Eller, and in this room, we are a family. Today, we may be a family where there are differences in opinions—and some differences may be larger than others—but we should still be a family that figures out ways to lift each other up while still remaining respectful. Of course, if anyone wants to talk privately about the election, you know my door is always open. But now, today, I want us to focus—perhaps fittingly—on what we can do to make teams more effective and supportive in organizations.

After I spoke, we moved on business as usual and talked about team dynamics, and (all too conveniently) how to resolve interpersonal conflicts when they arise among team members. When the class was over, most students milled around and left the classroom, but a few stuck behind.

OK—a few stuck behind because they wanted to talk about their second exam grade, but some wanted to talk about the election a bit more and my thoughts on how things were going to progress, which, of course, none of us know for sure. In this entire discussion, I never disclosed who I voted for, but found that the students coming forward were more than happy to share, and I was comforted to see the amount of compassion and empathy unfolding from people who voted for either candidate. Now, I don't want to paint a totally idyllic picture. As a collective, we have a lot of soul-searching and regrouping to do, and I of course have concerns over what the future holds for myself and my family—both my personal family but also my academic family, too. But, here's the thing—my grandmother (who is the most badass [can I say that in a *TIP* column?] woman I have ever known) was a true warrior. She grew up in Germany during World War II, escaped via a program called the Kindertransport, and lived the most magnificent, beautiful life until she passed away during my second year of graduate school in 2009. After everything she had been through, her motto was "never postpone joy." So, as I gear up for the holiday season and what is sure to be an interesting 2017, I'm going to try to do just that, and if I can convince some students that's a good message, too, then I'll call this semester a success.

On the Legal Front: Surprise!

Rich Tonowski
U.S. Equal Employment Opportunity Commission

America awoke on November 9, 2016 to the election of Donald J. Trump as its next president. So for many commentators, your humble author included, what might have been a ho-hum summary of the past year was transformed into the opportunity, if not the obligation, to prognosticate on the coming year. This, of course, was after the election had thrown prognostications into disrepute.

The annual roundup would have included matter-of-fact mention of major regulatory changes. But for some of these, the courts are already postponing, if not undoing, key initiatives of the Obama Administration that a Trump Administration might conclusively bury.

The major issue here is how a Trump presidency will impact the practice of I-O at the intersection of science and law. But changes to the general employment law climate will also get a few words.

One place to start is with the U.S. Equal Employment Opportunity Commission (EEOC), chief enforcer of laws affecting selection practices in the workplace that are a traditional I-O area. The new president's authority to appoint a new chair and the upcoming general counsel vacancy[1] have the potential to change the emphasis of EEO guidance and enforcement. These appointments perhaps have less immediate impact on substantive matters. EEOC is headed by a five-member bipartisan commission with staggered terms for the commissioners. Current Chair Jenny Yang indicated that she would serve out her term as a commissioner. That term expires in July 2017; hers is the earliest term to expire, and so presents the earliest opportunity for a Republican majority.

Majority party is not necessarily indicative of agency litigation activity. During fiscal years (FYs) 2001–2008, roughly corresponding to the George W. Bush administration, EEOC filed 2,852 "merit" suits, that is, suits involving allegations of discrimination and not including subpoena enforcement or administrative matters. For FYs 2009–2016 under the Obama administration, there were 1,406 suits. For the Obama years, the average number of suits per FY was 176, about half that for the Bush years. Suits for FY 2016 (ended 9/30/2016) were 86, about half of the recent overall annual average. There can be multiple reasons for the change. Recent years have seen a focus on systemic discrimination, which can imply fewer suits with bigger payoff. Litigation activity is limited by the types of available cases and the resources to handle them. EEOC's monetary recovery from presuit action is up considerably. The high point for overall monetary recovery in the Bush years was $290.6M in FY 2007. Every one of the Obama years beat that.

Adverse Impact

One big potential issue is the future of adverse impact theory. Arguably, there are problems with who qualifies as a member of the aggrieved demographic group (Self-identification? "Perceived as" by the employer? Third-party visual identification?), what constitutes a numerical disparity cognizable as having impact, specification of "job related" and "consistent with business necessity" as employer defenses in Title VII without defining what these mean, and ambiguity as to legitimate less discriminatory alternatives available to the employer. Then there are the matters of how to count applicants and perform statistical analyses. See Cohen, Aamodt, and Dunleavy (2010) for a practitioners' survey on these matters.

Ricci (2009) held that taking race-based action to avoid adverse impact from a selection procedure was unlawful, absent a "strong basis in evidence" beyond just numerical disparity that the procedure was itself unlawful. The late Justice Scalia's concurrence went further, anticipating the "evil day" when the courts would need to choose between the protections afforded by Title VII and those guaranteed by the U.S. Constitution. He questioned the government's pressure on employers to achieve demographic parity, an aim unlawful for the government itself.

Competencies relevant for a given job are not necessarily evenly distributed across demographic groups; adverse impact, assessment for competency, and group identity may be intertwined, the "validity-diversity dilemma."

The converse problem, at least from the perspective of this writer, is that there are instances where historically excluded groups are still excluded by facially neutral procedures that cannot be shown by professional standards (including the SIOP *Principles* [2003]) to be job relevant in how they are developed or used. Adverse impact has been the means to address this.

LeRoy (2016), extrapolating from Trump campaign themes, envisioned the possibility for adverse impact that, "A one-sentence bill, passed by Congress and signed by Trump, would end 50 years of bedrock antidiscrimination law."

What's the probability of this happening? Adverse impact cases do not seem to be frequent; commentators have noted that they are not easy to prove and are expensive. The Department of Justice continues to bring cases in the public sector—big but few. Current EEOC emphasis has included adverse impact, but for the most part the few cases brought by the agency have not led to breaking new legal or professional ground. Credit and criminal history had particular emphasis; the agency won zero court decisions but got some favorable settlements. With litigation in conjunction with the "Ban the Box" movement regarding criminal history, consumer credit advocacy, and legislation at the state and municipal levels, the overuse[2] of these considerations for employment seems to have been curbed (although plaintiff-side attorneys might say not curbed everywhere). This might be an area for adjustment of emphasis, but it's not clear what objective is to be achieved through adverse impact legislation that inevitably would entail a major political fight.

Some of the same can be said about traipsing through the quicksand for revising the government's Uniform Guidelines on Employee Selection Procedures (1978). EEOC put the Guidelines on its regulations review schedule for 2020, which does not imply action. One potential casualty of the transition is that SIOP's Task Force on Contemporary Selection Methods, intended to address professional and technical issues with the EEOC, and barely started, might not be a priority for the new chair.

Pay Data Collection

Compensation systems that actually motivate outcomes desired by the organization and are administered fairly so as not to become demotivators are an I-O concern. A related EEOC activity is the plan to collect employer aggregate pay data starting in 2018 via the annual EEO-1 workforce reporting procedure. It is also another potential transition casualty. This procedure currently calls for demographic group numbers reported by occupational group. To this would be added a set of average pay categories crossed with the existing categories. Some employer-side stakeholders have called the project excessively burdensome and inherently useless. Other stakeholders see it as a tool for identifying and correcting pay discrimination. As with any other EEOC activities that are objectionable, the president can propose, and congress can enact, budget legislation that effectively starves the activity to death.

Other EEOC Priorities

Other current EEOC priorities that might be seen as attempts to expand the law involve pursuing LGBT discrimination as sex discrimination, examining implications of work arrangements such as the "gig economy" (think Uber) and joint employers (think franchises) for EEO law, and the potential positives and negatives for Big Data.[3] Whether any of these would be deemed objectionable under the Trump Administration remains to be seen. The matter of franchisers has been controversial as it can arguably make the franchiser jointly liable for day-to-day operations over which it has little control.

Recent Controversial Regulations

"Stare decisis" (Legal Latin, "to stand by things decided") has gotten a bad rap from those impatient with the lack of congressional action to change the law as they think it should change.

New agency positions afforded deference by the courts have been seen as a possible work-around, upending areas of the law previously considered as settled. Opponents of following precedent may now become advocates. With the change in administration, such regulatory revision can change direction dramatically. The U.S. Supreme Court ruled that agency positions not originally promulgated with formal hearings and adoption proceedings can change as circumstances warrant. Stare decisis does not apply to agency policy positions or to rulings from bodies such as the National Labor Relations Board (NLRB). How much deference these changes get from the courts is another matter; the principle of following precedent likely would put the brakes on radical change absent an actual change in the law.

Regulations promulgated by the U.S. Department of Labor (DOL), some pursuant to executive (presidential) orders, can change. Executive orders that triggered rule-making procedures likely would need to be undone with similar procedures not just by order. That will take time, limiting what might be changed in the initial days of the new administration. Some changes apply specifically to federal contractors: protection for LGBT employees, increased minimum wage, hiring goals for veterans and people with disabilities, permission for employees to discuss their respective pay, and scrutiny of a contractor's record of employment law violations. This last item, the "Fair Pay and Safe Workplaces" rule (Executive Order 13673) has been controversial and has been labeled as the "blacklisting rule" by opponents. At issue is how violations would be considered for future contracts, where the alleged violation may not have been fully adjudicated or treated as a "nuisance complaint" by the employer, cheaper to settle than to fight. Again, it remains to be seen what Obama orders may not be objectionable to the new administration.

Some major changes are already stalling out in the courts—a cautionary note that presidents don't always get what they want. DOL issued a change in the salary ceiling before an employee is exempt from overtime provisions in the Fair Labor Standards Act (FLSA), from $23,600 to $47,476. The effect would be for many workers to become eligible for overtime. This could have serious consequences for employers who are not prepared for such a major change in payroll costs. The salary threshold would be revised every 3 years. A court has issued a nationwide injunction, finding that the regulation's dependence on salary did not take into account other factors in the law. (FLSA is an area where I-Os can contribute sound job analyses to settle what the employees do and what competency the job requires.) The suit was brought by 21 states and the U.S. Chamber of Commerce (*State of Nevada*, 2016.). The "blacklisting rule" also was stopped by temporary injunction (*Associated Builders*, 2016). A permanent national injunction was entered against DOL's "persuader rule," which would have forced disclosure of anyone (including attorneys) hired by an employer regarding opposition to union organizing efforts (*National Federation of Independent Businesses,* 2016).[4] EEOC has also been rebuffed when its current position has not aligned with previous pronouncements.

For transgender students, which bathroom to use was the subject of Department of Justice rules favoring the choice of the student. This has been blocked, and employment considerations added, by court injunction. The court objected to an agency change apparently in conflict with previous regulations and no process to amend the regulations other than agency say-so. This subject will be addressed by the Supreme Court in *Gloucester County Board of Education*

(2016). The broader issue of whether LGBT discrimination is already prohibited as sex discrimination under Title VII is pending in the courts. District courts have reached different conclusions. The Seventh Circuit decided that it was not prohibited, with the panel noting that the decision was in line with precedent, but the case law was ambiguous. The full court will now rehear the case (*Hivley*, 2016). Presumably LGBT protection can be maintained for federal contractors whether or not that protection applies more broadly under Title VII.

The NLRB has been criticized for setting a new course involving employee collective action. Use of social media to criticize management, partially excusing racial epithets on the picket line, striking down employee handbook language that might discourage collective action, and declaring some employee arbitration polices to be unlawful are just a few items. Two of its five seats are vacant, allowing the possibility of a Republican majority in short order that could return to the status quo ante the Obama Administration.

What Next?

Watch for further developments between:

- Religious rights of employers and EEO rights of employees.
- Attempts to prevent workplace harassment (subject of a recent EEOC taskforce) and objections to enforced "political correctness."
- "Enforcing EEO law" and "ending discrimination;" as sometimes used, the former implies a more conservative approach to legal issues.

There are other workplace issues that will arise, notably health and safety regulations. Environmental issues are yet another area of controversial rules.

So where does that leave us? The House of Representatives passed the Midnight Rules Relief Act to allow for Congress to review and reject rules enacted within the last 60 days of the current administration. Not surprisingly, the president has indicated that he would veto the bill should it cross his desk (Macagnone, 2016).

The new administration has indicated an interest in freezing hiring for federal agencies, which could in time reduce the available workforce in regulatory agencies. Presumably this freeze will not apply to filling the vacancy on the Supreme Court. EEOC operated with a hiring freeze during the previous administration that apparently did not deter its litigation. But any effects on staffing will not be an immediate cause for a change in activity.

Although the new administration seems to have a distaste for government by regulation, the practical matter it will face is whether some of those regulations are in line with the administration's objectives and were properly implemented. The latter goes to objections being raised by the courts to the positions recently taken by agencies that are not aligned with previous pronouncements, the agency's authority established by congress, or with the underlying statutes

themselves. Some of the more controversial rules are likely headed for the trash can. But others may be more suited for recycling, or just leaving alone.

In the short run, it will be a wait-and-see situation simply because the ship of state does not turn on the proverbial dime. The challenge to the I-O profession, to demonstrate the relevance of its science and practice to the well-being of individuals and organizations, has not changed. Some of the audience has.

Notes

[1] P. David Lopez, the agency's longest-serving General Counsel, announced before the election that he would leave at the end of the year. The General Counsel heads the agency's litigation activities.

[2] There is a distinction between using credit and criminal history as an initial screen or final suitability determination. The legal concern has been for the former because of adverse impact. The meta-analytic evidence for substantial validity that generalizes across situations is not impressive (Aamodt, 2015).

[3] Big Data was covered at the SIOP Leading Edge Consortium in October 2016. The same month the EEOC commissioners held a meeting on that and related issues. The chair announced formation of an internal task force to study further the implications for EEO law.

[4] It appears that Texas is the place to go for these injunctions.

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**Concerns for LGBT Workers After the 2016 Presidential Election and
What I-O Professionals Can Do About It**

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The election is finally over and Donald J. Trump has been declared president-elect of the United States. During the campaign, over half of all Americans surveyed reported that the 2016 US presidential election has been a significant source of stress in their lives (American Psychological Association, 2016). Election stress was a bipartisan issue equally felt by Democrats and Republicans, yet across racial, ethnic, sociodemographic, age, and ability groups, stress was experienced quite differently. Since the results of election night, stress may be over for some, but for many others, especially in the LGBT community, the stress is still very much present. Since the days of the election, calls to suicide hotlines like the Trevor Project have doubled and Trans Lifeline calls increased tenfold (Patterson, 2016; Seipel, 2016). Many of the concerns that have been expressed are about fears regarding the gains in LGBT rights being lost under the new president (Patterson, 2016). These include concerns about access to trans-related healthcare, the nullification of marriage equality, and the promotion of reparative therapy, a practice that is heavily discredited by the APA. The purpose of this piece is to inform our field on what these concerns are as they relate to working LGBT employees and the training of I-O psychologists, related policy concerns, and what can be done as practitioners and academics to protect employees and students.

As it stands, Title VII of the Civil Rights Act of the Civil Rights Act of 1964 remains the authority of employee protection from workplace practices. The language from this statute prohibits employers from discriminating on the basis of race, color, religion, sex, or national origin. Additionally, the Civil Service Reform Act of 1978 prohibits discrimination by the federal government in personnel actions based on conduct which does not affect the performance of an applicant or employee, which includes being lesbian, gay, bisexual, or transgender. It is unlikely that these protections would be removed as it requires efforts from both houses of congress and the president to repeal a law.

Executive orders have also provided many additional protections. Unlike statutory law, any executive order can be removed on the president's first day in office. Executive Order 13,087 (1998) amended Executive Order 11,478 (1969) to prohibit discrimination in federal employment on the basis of sexual orientation and gender identity. Executive Order 13,672 (2014) amended Executive Order 11,246 (1965) and extended this protection to employees of federal contractors and subcontractors. Further, the Obama Administration through the joint effort between the Departments of Justice and Education released guidance to provide educators with information that all students, including transgender students, could attend school free of discrimination. These protections have the highest risk of being removed. President-elect Trump has stated in his 100-day plan is that he will "cancel every unconstitutional executive action, memorandum, and order issued by President Obama" (Kelly & Sprunt, 2016). Although the President-Elect Trump has said little to nothing on LGBT issues, Vice President-Elect Pence has

openly stated he would make sure that Trump would reverse some of these measures (Hartmann, 2016).

An additional concern for LGBT employees is marriage equality. The Supreme Court decision in Obergefell v. Hodges (2015) resulted in the affirmation of the fundamental right to marry being guaranteed to same-sex couples. This also meant that all workplace benefits afforded to the spouse of an employee were also extended. These include benefits like healthcare access, insurance, and family leave among others. On the matter, President-Elect Trump has recently said that the issue is settled, and this is true to some extent but not completely. The Obergefell decision creates case law, and as the Supreme Court delivered the decision it is harder to overturn. For a Supreme Court decision to be overturned, a legal question of marriage equality that has not already been decided by the Supreme Court would need to be able to rise through the courts. Typically, the precedent set forth by the Obergefell decision would answer any legal question on the matter in any court. However, this does not keep congress from enacting a law that disagrees with the decision, being found unconstitutional by a court, and have that law work its way through the judicial system up to a Supreme Court. President-Elect Trump has stated that he would appoint Supreme Court Judges committed to overturning the ruling. Although the risk of losing these protections is smaller and less immediate compared to that of the Executive Orders, it is still real nonetheless.

Another concern for LGBT employees and their community relates to President-Elect Donald Trump's promise in his campaign platform (Donald J. Trump for President, Inc., 2016) to sign Senate Bill 1598 (2015) or House Bill 2802 (2015) if either were to be passed by both houses of the U.S. Congress. These are bills that have been submitted to both houses of Congress under the name "First Amendment Defense Act" (FADA). If this law becomes official, it will open the LGBT community to significantly greater opportunities of discrimination than before.

FADA is written to legally protect people taking actions against sexual minorities under the guise of First Amendment freedom of religion protections. According to FADA, the federal government is forbidden to take "discriminatory action against a person on the basis that such person believes or acts in accordance with a religious belief or moral conviction that: (1) marriage is or should be recognized as the union of one man and one woman, or (2) sexual relations are properly reserved to such a marriage," (S. 1598, 2015). Discrimination per this bill encompasses any form of punishment or reprimand on the part of the federal government, as long as the person is allegedly acting in accordance with their beliefs and morals. Finally, the bill reiterates the idea of corporate personhood (Tucker, 2010) by defining persons as including "corporations and other entities regardless of for-profit or non-profit status" (S. 1598, 2015).

To understand the implications that this law can have for LGBT workers, we consulted with Jim Lai, an Illinois attorney and certified privacy and information specialist (personal communication, November 23, 2016). According to Lai, the wording of this bill (S. 1598, 2015) specifically impacts LGBT employees who work for the federal government and for federal contractors. FADA protects "people" who are federal contractors or work within the federal government who take actions against employees based on their "religious beliefs" or "moral convictions"

about marriage and sexual behaviors, while protecting them from "discrimination" from the government itself. Although this does not impact organizations that do not receive federal money, Lai (personal communication, November, 23, 2016) cautioned that any organization that has a contract with the government has the potential to be considered a "government contractor," even if an incidence of discrimination were to happen in an unrelated department or division.

Therefore, a manager working for a company with federal contracts could refuse an employee time-off under the Family and Medical Leave Act to spend time with their same-sex spouse in the hospital, based on the manager's beliefs, and still be within the bounds of the law. If the company were then to fire said manager, the manager may have grounds to seek damages against his company as their company would be interpreted as acting "on behalf of the federal government" as a contractor. This could even impact allies of the LGBT community, as a person would be able to fire a straight employee if they had beliefs supportive of same-sex marriage, as it would go against the beliefs or convictions of the person doing the firing.

LGBT employees also face increased usage of federal and state "Religious Freedom Laws" as justification for denying services or business transactions towards LGBT individuals. The case of Kim Davis, Rowan County Clerk, was most notable in recent years, when she tried to invoke similar logic to win a case that would allow her to deny marriage licenses to same-sex couples in Kentucky (Kaplan & Higdon, 2015). Since 1993, 21 states have passed Religious Freedom Restoration Acts (RFRA) and 10 other states are contemplating legislation on the topic (Griffin, 2016). Although these laws, and the potential future laws, are distressing for LGBT individuals, one defining point needs to be stressed, these laws have been used as defenses for business transactions with customers not employees.

Despite the impending concerns that may occur with the results of the recent election, there are other protections in place. In 1965, the Equal Employment Opportunity Commission (EEOC) was established by the federal government to "ensure equality of opportunity by vigorously enforcing federal legislation prohibiting discrimination in employment on the basis of religion, race, sex, color, national origin, age, or disability" (Editors, 1999). Over the years, the EEOC has investigated claims on various areas of employment discrimination and had its services expanded to include educational and technical assistance programs designed to support both employers and employees. Annually, the EEOC investigates over 80,000 claims of employment discrimination.

Legislation over the last decade, especially regarding the interpretation of Title VII of the Civil Rights Act (1964), has brought increasing attention to the EEOC, especially in the area sex/gender discrimination. Yet, recent EEOC rulings and several presidential executive orders (e.g. President Clinton and President Obama) have expanded the interpretation of Title VII to include "discrimination against an individual because of gender identity, including transgender status, or because of sexual orientation is discrimination because of sex in violation of Title VII" (Alter, 2015; Macy v. Department of Justice, 2012). The EEOC ruling in July 2015 expanded upon this, guaranteeing that equal standards apply to sex as well as race, which means you can't be fired

based on who you choose to be friends with, date, or marry (Baldwin v. Department of Transportation, 2015).

Within everyday business, it is important to remember that denying accommodations or benefits to LGBT employees, based on one's religious beliefs, is still a violation of Title VII. Although religion is a protected class, the EEOC has outlined how far this protection extends under the definition of reasonable accommodation and undue hardship. The EEOC states that "an employer does not have to accommodate an employee's religious beliefs or practices if doing so would cause undue hardship to the employer…if it is costly, compromises workplace safety, decreases workplace efficiency, infringes on the rights of other employees, or requires other employees to do more than their share of potentially hazardous or burdensome work" (Religious Discrimination, n.d.). This definition clearly states that infringement on the rights of other employees is illegal.

As organizations adjust to new legislative policies, while continuing to balance their own interests, it is up to us, I-O consultants and HR specialists, to ensure that our organizations are in compliance with federal laws and EEOC practices, while ensuring the rights of each employee to perform their jobs free of discrimination and hostility. To this end, the EEOC has developed numerous training and outreach programs to assist organizations in meeting the needs of their workforce. In 2015 alone, the EEOC field staff gave over 700 presentations, reaching over 43,000 attendees. The local EEOC offices and EEOC websites offer training materials and brochures that can help educate organizations on starting beneficial discussions for preventing discrimination and promoting diversity within companies.

As in-house advisors, we can aid our organizations and coworkers by encouraging environments of acceptance and inclusion. Review current and future policies to ensure that nondiscriminatory language is used and that your policy and benefit programs include coverage for the LGBT employees and their families. Encourage your organizations to establish diversity awareness programs and reach out to local communities to promote awareness and activism. Informative programming can be developed to assist others in learning about the LGBT community, transgender issues, and how to be respectful of all sexual orientations. This can provide a great opportunity for useful discussions among employees about their own beliefs (religious and other) that may support or conflict with this minority group. Establishing yourself as a direct advocate for LGBT employees can go a long way towards ensuring that all employees are treated fairly and with respect, allowing them to perform their jobs confidently.

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Max. Classroom Capacity: Trumped up Teaching!
Lessons From the 2016 US Presidential Election for the I-O Psychology Classroom

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Greetings readers! Like most people in this country (and many other countries), I have been absorbed, fascinated and at times horrified with the recent US presidential election. OK, OK, maybe you're sick of reading about it—sorry, but I can't help it. It's so interesting! I promise to try not to take sides (I'm a Canadian so my political views are easy to guess and mostly irrelevant!). What I'd like to talk about are the MANY lessons and examples this election has provided for teachers of industrial-organizational psychology. I hardly know where to start.

But before I begin, it's important to note that students are likely to have very strong (and differing, depending on where you live) feelings and opinions about this election. Some instructors may consider discussing politics in class to be a minefield that is best avoided. I understand that. My own view is that these are exactly the kinds of issues that have the greatest potential to engage students by encouraging them to think critically about their own and others' beliefs, values, and behaviors. It also helps them to recognize and reflect on how workplace issues, rather than existing in a vacuum, are tied to broader societal forces. Whenever I've talked about anything so obviously controversial, I first acknowledge my own biases: "Keep in mind, I'm a Canadian progressive who didn't like either candidate..." (I guess I already did this for you, the reader, in the previous paragraph!). This works best when you have built up some good will, trust, idiosyncracy credits (Hollander, 1958), and so on with your class. The goal always must be to further students' learning, not to try to impose your beliefs on them, no matter how tempting that may be!

1. Selection decisions

Many organizations spend a lot of resources developing selection and talent management systems with the goal of hiring, developing, and promoting the candidates who are the most likely to succeed in their future roles. The general approach is to first identify the KSAOs or competencies that are needed, then develop assessments of these qualities, and finally choose candidates based on their scores on these assessments. Clearly this approach is markedly different from the process used to select the POTUS! An interesting exercise might be to have students develop a new or alternative selection system for the POTUS via I-O psychology principles and compare and contrast the resultant criteria and decisions with the candidates' qualities that seem to have been selected for in recent elections. Of course democratic elections are VERY different from selection in organizations in many ways—that's not a problem. I would expect one outcome of this exercise to be that students gain greater clarity around how and why selection in these two contexts differs.

2. Attitude measurement and behavior prediction

The result of the election was a surprise to most people, perhaps in large part due to polls that tended to indicate greater support for Clinton than Trump. This may provide a nice context in which to discuss a variety of theoretical and methodological issues to do with attitude and intention measurement. For example, what latent constructs (if any) are being assessed with polls, and how valid are they? Was poll data potentially contaminated with response biases such as social desirability? Did nonrepresentative sampling of the electorate result in poor external validity? Were there notable researcher biases that resulted in misinterpretation of poll data? For example, Tetlock's (2005) work on the challenges associated with expert political judgment may be a worthwhile reading assignment. To what extent do intentions (e.g., to vote, to vote for a particular candidate) lead to corresponding future behavior, for example, via models of motivation such as Ajzen's (1985) theory of planned behavior? The election provides a lot of fuel for conversation around all of these issues.

3. Issue framing and decision making

Some of my own research concerns how leaders frame issues in ways that produce in their followers different motivational states that impact the qualities of their subsequent task performance. In particular, one aspect of leader communication I study is the use of threat framing. So I paid a lot of attention to how the candidates framed issues, particularly in the debates. The language used (e.g., "Other nations are taking our jobs and wealth," "13 trillion in family wealth was wiped out," "Obamacare is a disaster," "Now we have come back from that abyss") may provide a nice introduction to some of the framing principles that influence decisions identified in Tversky and Kahneman's (1981) Nobel prize winning research. Instructors may initiate a debate about whether one candidate focused more on gains versus losses than the other, what effects one would predict for such a difference based on Tversky and Kahneman's research, and to what extent this may have impacted the election results. But there's much more to discuss on the issue of why people decided to vote for Trump. My favorite explanation so far might be I-O psychologist Michelle Gelfand and Joshua Jackson's (2016) argument in their recent *Huffington Post* article that inducing threat and cultural tightness was the key to Trump's victory. I encourage you to read it for more depth on the topic!

4. Gender

Although the failure of Clinton's election bid can be attributed to a number of factors, it is hard to ignore the fact that there has never been a female POTUS, and her gender may have been a barrier for some voters. This argument would be consistent with research that shows that (a) although the gender gap has diminished considerably, a "glass ceiling" remains very much in place for high level positions. For example, only 5% of *Fortune* 500 company CEOS are female (Catalyst, 2014). On the other hand Clinton's loss may be considered somewhat inconsistent with recent research on the "class cliff" effect in which it is argued that women are more likely to be selected as CEOs of organizations that are failing (Ryan & Haslam, 2005), that is, assuming people view the US as a failing country. On the other hand, if conditions of threat (e.g., a failing organization) make unconventional choices more palatable (cf. Tversky & Kahneman, 1981), then perhaps Trump, as a political novice, was considered an even more unconventional choice than Clinton. Interestingly, Trump's history of misogynistic comments and (alleged and self-reported) behavior did not appear to help Clinton in her efforts to break the glass ceiling. All of this may form a strong basis for a class discussion of gender stereotypes, implicit theories of leadership, and gender discrimination.

5. Leadership

As a leadership researcher, I find this to be a fascinating case study of the dynamics of trust. Clinton was roundly criticized in the popular press for a lack of trustworthiness, partly stemming from the controversy involving her use of a private e-mail server for official state department communications. She initially denied any wrongdoing but eventually apologized, despite an FBI investigation that had concluded she had been reckless but hadn't broken the law. Then came the unexpected announcements days before the election that (a) the FBI was reopening its investigation and, a few days later, that (b) the FBI had completed its investigation and again concluded that Clinton had not engaged in any criminal activity. In addition to the e-mail controversy, Clinton was criticized by Trump and many others for her ties to Wall Street and large corporate lobbyists as a "career politician." Trump's nickname for her, "crooked Hillary,"

seemed to stick. Despite relatively more, ah, *fluidity* in his rhetoric surrounding positions, beliefs, and, um, facts, Trump remained slightly *less untrustworthy* compared to Clinton in most polls in the few weeks preceding the election (though perhaps there is cause to doubt the validity of the poll data). In addition, Trump seems to be in favor of financial deregulation (e.g., dismantling Dodd-Frank), making Trump openly in favor of the kind of pro-Wall Street policy position that he seems to have criticized Clinton (perhaps legitimately) for being *covertly* in favor of. Perhaps Trump's seemingly more unfiltered, unpolished and sincere communication style (irrespective of content), particularly in comparison to the norms of political discourse, may have been especially appealing to the many individuals frustrated with a political system from which they feel disenfranchised. Or maybe something more primal is going on (e.g., Gelfand & Jackson, 2016). It's really fascinating, and beyond great teaching fodder, there's probably a program of research lurking in there too.

In addition, Trump versus Clinton provides a lot of data for a discussion of leadership styles. One might start with the argument that Trump was more charismatic than Clinton and debate what it means to be charismatic, perhaps addressing the so called "dark side" of charisma, socialized versus personalized power orientation, and authoritarianism. Both Trump and Hilary are interesting cases for a discussion of authentic leadership theory as well. Finally, the fact that citizens of the same country could have such radically different perceptions of and attitudes towards two leaders speaks to the importance of followers in leadership processes, so the election is relevant to the discussion of the burgeoning research around followership.

6. *More…*

There are many more topics for which the election can be a great introduction or provide a basis for discussion or debate. I'll note a few here in rapid-fire style:

- Bullying: Is Trump a workplace bully? Is Hillary a workplace bully? What potential outcomes might we expect to arise from workplace bullying?
- Leadership and organizational culture: What kind of organizational culture will Trump create among his staff? How do you think it would differ from the culture that Clinton would have created?
- Cross-cultural effects: To what extent are leaders like Trump common in different countries? What cross-cultural differences (e.g., in power-distance, implicit leadership theories, etc.) might explain these preferences?
- Social norms at work and organizational climate: Will Trump's derision of "political correctness" encourage behaviors that create problems in diverse workplaces (e.g., hostile work environments)? What is the right balance between being able to express controversial or potentially offensive viewpoints versus respecting each other and protecting vulnerable populations?

I'm sure there are more ideas that I haven't thought of or couldn't fit in here. In fact, if you have any more ideas, or if you try out any of this in your classroom, please e-mail me at Loren.Naidoo@Baruch.cuny.edu. I'd love to hear about it! Thanks for reading.

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SIOP in Washington: Advocating for I-O in Federal Public Policy

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Since July 2013, SIOP and Lewis-Burke Associates LLC have collaborated to make I-O science and research accessible to federal and congressional policy makers. SIOP has embedded a foundational government relations infrastructure within the organization, enabling SIOP to develop an authoritative voice as a stakeholder in science policy in Washington, D.C. and to promote SIOP as a vital resource for evidence-based decision making.

Election Update

Resulting from the recent U.S. election results, Donald Trump is to be sworn in as the 45th president of the United States in January 2017. Although candidate Trump expressed some clear positions for his term, the public is aware of the general contours but not in-depth specifics on other positions and policy-related issues. Existing congressional Republican priorities and policies may, but are not certain to, be adopted by the Trump White House.

Beyond the White House race, the election resulted in Republican majorities in both the U.S. House of Representatives and the U.S. Senate, meaning that the United States will have one party governance for the first time since President Obama's first 2 years in office. During that time (2009-2010), Democrats passed legislation such as the economic stimulus package, the Affordable Care Act, and financial Wall Street reforms. Similarly, it is expected that passage of legislation will take on a heightened role with Republicans at the helm of the White House and

Congress. What is not yet clear is the extent to which the White House will be setting the legislative agenda beyond a few key interests thus far presented with regard to healthcare, immigration, and infrastructure.

Until the Trump Administration has an opportunity to shape its first budget request to Congress, many existing programs around which day-to-day grants and contracts interactions occur likely will continue. After the new White House has a chance to populate the agencies with new appointees and put its own imprint on them, some of these programs may change while others may remain unaltered.

Trump Administration Outlook: Impact on Research, Education, and Healthcare

As mentioned above, the Trump campaign has highlighted some key legislative priorities such as reducing immigration and strengthening border security, lowering taxes, infrastructure renewal and development, and repealing the Affordable Care Act (ACA). At a more detailed level, his proposed policies have not been fleshed out with respect to education, science, technology, or a replacement for the ACA. Therefore, much is still unknown about a Trump Administration and how it would treat universities and the research and healthcare communities. As the transition team and new administration refine their policy agenda, prioritize actions for early legislative activities, and identify agency and White House leadership, the ensuing months will be a critical period for universities and science organizations to engage and offer suggestions for agency and White House leadership positions as well as for input on emerging initiatives. At the same time, it is important for the community to assess Trump positions as more details emerge and decide where and how to best concentrate energy with respect to key priorities.

Although much is still unknown about President-Elect Trump's approach to research and education, initial information has emerged in each area as to potential policy approaches and initiatives. Current knowledge about how the Trump Administration might treat each area is included below.

Research

Research, science, and technology have not been high profile issues for the Trump campaign, yet the campaign has recently outlined some key foci and general thinking by means of policy advisors and responses to questionnaires such as Science Debate.[1] President-elect Trump has been clear that although the constrained fiscal environment will require prioritization, he views investment in academic research and space exploration as critical roles for the federal government and appropriate areas for long term investment. He has also noted a few major challenge areas that could become areas of focus for his administration such as cybersecurity, defense research, clean water, energy independence, and feeding the world with a special emphasis on the role of agriculture. In particular, in the area of space policy the campaign has outlined a more detailed vision through advisor and former congressman Robert Walker that would include an increase in deep space exploration and a focus on hypersonics technology at the ex-

pense of Earth science.[2] Past Republican Administrations have specifically emphasized basic research but also deprioritized applied research, environmental sciences, and social and behavioral sciences, and this is a potential approach of the Trump Administration as well.

Education

The next presidential administration is likely to have a strong voice in issues pertaining to higher education, although details from President-Elect Trump are scarce. As would be the case in any administration, higher education policymaking is complicated by diverse factions within the community, each of which has unique and sometimes conflicting interests. These different groups include public and private nonprofit institutions of higher education, for-profit institutions, students, elite research universities, liberal arts institutions, and community colleges.

Although President-Elect Trump has not provided detailed plans for higher education reform, he has referenced tenets of the Republican Party's platform, including support for eliminating or reducing the power of the Department of Education (ED), returning the student loan system to the private sector, reducing the breadth of the H-1B visa program, and eliminating the gainful employment mandate. President-Elect Trump has also expressed interest in decentralizing the role of the federal government in areas such as accreditation, which would increase the role of states and the private sector.

One of the more concrete education proposals offered by President-Elect Trump is an income-based repayment plan for federal student debt. He proposes payments be capped at 12.5% of income per month and that debt be forgiven after 15 years of steady repayment. The current Revised Pay As You Earn plan (REPAYE) caps payments at 10% of monthly income and forgives student debt after 20 years. President-Elect Trump has also said he would consider the tax-exempt status of large endowments as an incentive to lower student costs. President-Elect Trump has expressed interest in reforming and reducing federal regulations on universities. Further, there is a potential for a Trump Administration to counteract what it sees as regulatory overreach taken by ED under the Obama Administration, such as its rules on gainful employment, teacher preparation programs, as well as the Department of Labor's rule on overtime pay.

Top Congressional Issues to be Addressed in Remaining 2016 Session

With less than 30 days until the current fiscal year spending resolution expires, congressional leaders have not signaled how much they intend to accomplish before adjourning for the year and ending the "lame-duck" session. High priority issues on the table include:

- **Annual appropriations** legislation could be resolved through an omnibus "catchall" spending package, a year-long continuing resolution, or some combination of the two. Members of Congress have spoken of the need to dispense with fiscal year (FY) 2017 funding ahead of the next congress, but the politics of whether only some agencies could receive a full year bill complicate the process.

- **21st century cures** legislation would require changes to the Food and Drug Administration's approval process for drugs and medical devices and also potentially boost spending for the National Institutes of Health. Leaders on both sides have expressed a desire to finalize and pass this legislation, but the nature and offsets for new funding are still undecided, and it may get punted to the next congress when prescription drug legislation is set to be considered.

- **Tax extenders** are routinely a year-end priority, with many in 2016 impacting energy and home mortgage sectors. However, the expectation that a new congress could embrace tax reform may delay this issue until 2017.

- **Aid to Flint, MI and defense authorization** legislation are two additional items for the remaining 2016 session. The National Defense Authorization Act (NDAA) legislation has passed every year for many decades and Republican leadership will not want to break that trend this year. The assistance for Flint as well as any additional assistance for hurricane victims may be combined with other supplemental spending for the Department of Defense related to war-time operations.

The ultimate productivity of the remaining lame-duck session is still largely unknown and will be complicated by considerations as to whether Republicans will continue to support Rep. Paul Ryan (R-WI) as Speaker of the House for the 115th Congress.

115th Congress

Although Republicans will retain control of both the U.S. House of Representatives and the U.S. Senate, Democrats made gains in both chambers. The Senate will be composed of at least 51 Republicans, 46 Democrats, and two Independents who caucus with Democrats. The Louisiana Senate seat will not be decided until a December runoff. In the Senate, Mitch McConnell (R-KY) will return as the Majority Leader, and Chuck Schumer (D-NY) replaces the retiring Harry Reid (D-NV) as Minority Leader.

At the time of this writing, the House will be composed of at least 239 Republicans and 193 Democrats, with several races yet to be called and Republicans far surpassing the necessary 218 members to retain control of the majority. House Republicans and Democrats are expected to meet in November to elect their respective party leaders. There is heavy speculation as to what a Trump Administration will mean for House Speaker Paul Ryan given his lukewarm support for President-Elect Donald Trump during the campaign. However, Speaker Ryan has recently publicly increased his support for Trump, making it unclear whether Trump's win will impact his position as Speaker. With respect to Democratic leadership, Nancy Pelosi (D-CA) is expected to retain her role as Minority Leader.

SIOP Comments on NSF Strategic Plan

On September 26, SIOP's Scientific Affairs Committee, in collaboration with the Society's government relations initiative, submitted comments to the National Science Foundation (NSF) to shape preliminary conversations about the NSF Strategic Plan 2018–2022. NSF's call for input requested feedback on the foundation's vision, core values, goals, and objectives, referencing the 2014–2018 plan.

SIOP conveyed its support for NSF's goals and overall vision, and highlighted the potential impact of industrial and organizational (I-O) psychology in supporting NSF's goals. SIOP will continue to engage NSF throughout its strategic planning process for 2018–2022, ensuring continued investment in I-O psychology and social and behavioral sciences broadly. Advocacy and outreach relating to the foundation remains a priority for SIOP government relations.

Notes
[1] http://sciencedebate.org/20answers
[2] http://spacenews.com/what-a-trump-administration-means-for-space/

Advocacy in Action: SIOP Member Snapshot

Michael Burke
Professor, Lawrence Martin
Chair at Tulane University
SIOP Past President

In our second *TIP* feature of SIOP members engaging in government advocacy work, we follow SIOP member and past SIOP president, Mike Burke. To tell us about your own advocacy-related work, please contact current Government Relations Advocacy Team committee chair, Jill Bradley-Geist at jill.bradley-geist@uccs.edu.

In providing a few comments about my government advocacy efforts in support of SIOP and applied psychology, I will begin with a story or two about my early experiences. Yes, I have kissed the Blarney Stone. Perhaps there are a few lessons in the stories.

In the mid 1990s, several colleagues and I went through a crash advocacy training course sponsored by APA. Our goal as trained advocates was to meet on Capitol Hill with our congressional representatives and make a pitch for greater science funding in relation to the House Appropriations Committee's proposed behavioral science funding. As I recall, the proposed funding for behavioral sciences was a significant cutback from the prior year. My planned assignment could be summed up as giving a canned 2-minute presentation on the value of behavioral science research to my congressional representative, who was the chair of the House Appropriations Committee. The meeting with my congressional representative was intended to last about 10 minutes, assuming he would fill the remainder of the time with questions. Shortly after I began my presentation, my representative shifted the discussion, asking about the types of jobs that an undergrad psychology major could get and why it might be important to obtain graduate training in psychology in order to do specialty work. At that time,

my representative's daughter was an undergrad psychology major at a New Orleans area university, a school and psychology program that I knew a great deal about. My representative proceeded to cancel his next two or three meetings, as I transitioned to the role of academic/parent adviser. Word reached APA that I was in an extended meeting with the chair of the Appropriations Committee, which brought APA staffers and cameras to the Hill. Although that event is documented in an issue of the *APA Monitor*, a notable outcome was that there was an increase in behavioral science funding that year. I cannot attribute the increased appropriation to the advocacy efforts of our APA team. Yet, the association of our efforts with the increase leads me to believe that it was not coincidental.

My other experiences are more directly linked to educating government officials and researchers in other disciplines about the value of applied psychological research. One experience concerned meetings with U.S. Department of Energy (DOE) officials and contractors in the early to mid 1990s about the potential of applied psychological research for enhancing the training and training program evaluation for hazardous waste workers and emergency responders. The context for these discussions was that the Dept. of Energy's primary mission had shifted in the wake of the Cold War from plutonium production for nuclear weaponry to cleaning up the nation's nuclear waste. Plans were being put in place to train and evaluate the training of tens of thousands of workers who would clean up nuclear waste through the 21st century. The very early meetings were somewhat contentious where our relevance, experience, and machismo were questioned. After being challenged in one meeting, I recall retorting with two questions directed at the audience: Has anyone in this room been in a runaway, out of gear Mack truck hauling 10 tons of asphalt, racing down a steep 1-mile hill? If so, how did your *#!$&^s help you survive? Fortunately, I was the only person in the room who could answer yes to the first question, making the second question moot. These initial "get to know each other" meetings were critical in establishing rapport with and gaining the trust of the rank and file and their union stewards, which opened the door to discussing the potential of our planned research for improving worker safety. We had considerable cooperation and success in assisting the DOE in understanding how to measure safety performance and optimally conduct and evaluate safety training for thousands of workers in dozens of occupations. The active, hands-on form of training that our research findings clearly supported continues to this day at the place of our original work, the Hanford nuclear site in Washington State. In 1997, the training facility at Hanford became the Volpentest HAMMER (Hazardous Materials Management and Emergency Response) Federal Training Center, where they provide "*Training as Real as It Gets."*

Another notable experience is when **David Hofmann** and I were asked to participate in an October 2006 U.S. congressional briefing entitled "Workplace and Public Safety: The Role of Behavioral Research" that was sponsored by the Decade of Behavior associations including APA, SIOP, the National Communications Association, and numerous others. My presentation focused on the meaning of safety performance and the value of hands-on training, relative to more passive forms of training, for enhancing safety performance. That event generated a fair amount of media attention and, subsequently, considerable interest within public health, occupational medicine, and government circles about the value of applied psychological research in the domain of occupational safety. For instance, the safety training research findings presented on

the Hill led to a debate on the efficacy of hands-on safety training between my research team and a research panel jointly formed by the U.S. National Institute for Occupational Safety and Health (NIOSH) and Canada's Institute for Work & Health. This exchange is documented in a government technical report and series of articles, and is ongoing.

Regular participation in government sponsored conferences as well as public health conferences by myself and members of my research teams has also exposed our safety research and that of other SIOP members to those in other disciplines. These presentations beyond the confines of our annual SIOP conference were perhaps influential in the use of our safety research findings in guiding several regional and national safety training and evaluation efforts (e.g., the Centers for Disease Control and Prevention (CDC) disaster preparedness training, the National Institute of Environmental Health Sciences' (NIEHS) Gulf Oil Spill clean-up worker training). Although I am not part of the current effort, my understanding is that our research findings concerning the dimensionality of general safety performance will play a role in the newly launched Ebola Biosafety and Infectious Disease Response Training program, a national worker safety training program offered by NIEHS in partnership with the CDC.

I am also proud of 6 years of highly active service from 2003–2009 as a member of the CDC's Safety and Occupational Health Study Section. Serving on this panel allowed me to frequently interact with government officials and colleagues in public health, medicine, and engineering. Here, I learned a lot about their fields and research, and I had many opportunities to inform them of the nature and value of applied psychological research in the domain of occupational safety. Since my days as an appointed member of the CDC's study panel, I have occasionally served government agencies such as NIOSH, NIEHS, and the National Academy of Engineering in an advisory or reviewer capacity.

Admittedly, although engaged in many of the above efforts, I did not view the efforts as "government advocacy" on behalf of the field. Rather, my intention was quite simple, to concurrently create awareness outside our field of our research findings and to serve in roles that could have a positive effect on workers' safety and health. It should not go without saying that these efforts were frequently part of a team, and I have had the great fortune of working in the safety domain with very talented individuals including graduate students and colleagues from a number of disciplines. After you have kissed the Blarney Stone, you can talk just about anyone into working with you!

Really, I Come Here for the Food: Sex as a BFOQ for Restaurant Servers

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I recently saw that a discrimination lawsuit had been filed involving a defense that sex was a bona fide occupational qualification (BFOQ) for restaurant servers (*Rafael Ortiz v. DMD Florida Restaurant Group, 2016)*. I immediately thought of the Hooters cases that are part of the I-O lore and thought that this might be a good time to review these restaurant BFOQ cases. This discussion is

limited to restaurant cases for two reasons: (a) They are the most interesting, and (b) a review of the other cases (e.g., sex as a BFOQ for prison guards[1] or home health attendants) would far exceed the *TIP* space limitations and probably the readers' attention span as well.[2]

Before I get into the case review, however, I want to review the definition of a BFOQ and provide additional context around the BFOQ defense.

The BFOQ Defense

In the United States, Title VII of the Civil Rights Act of 1964 prohibits employment discrimination on the basis of race, sex, color, religion, and national origin. The BFOQ exception in Title VII states that discrimination is illegal except, "in those certain instances where religion, sex, or national origin is a bona fide occupational qualification reasonably necessary to the normal operation of that particular business or enterprise." The courts have opined that an employer using the BFOQ defense must demonstrate that it "had reasonable cause to believe that all (class members) would be unable to perform the job safely and efficiently or that it was impossible or highly impractical to consider the qualifications of each" (Cavico & Mujtaba, 2016).

Before describing the restaurant cases, it is important to understand the difference between a BFOQ case and the "typical" sex discrimination case. In a BFOQ case,[3] the defendant does not deny that it only hires women (or men) for a particular position but instead argues that only members of a particular sex *can* perform the job. Such cases must be distinguished from those in which the restaurant doesn't *want* to hire applicants of a particular sex (e.g., *EEOC v. Jillian's*, 2003; *EEOC v. Palm Management Corp*., 2003; *EEOC v. Parker Palm Springs Hotel*, 2007; *EEOC v. Razzoo's*, 2008).

EEOC v. Joe's Stone Crab, Inc. (2002) provides an excellent example of a case that occasionally is incorrectly cited as a BFOQ case. In 1991, Joe's Stone Crab was a fourth-generation, family-owned seafood restaurant in Miami. From 1950 until the EEOC filed its sex discrimination complaint in 1991, the server positions were *almost* exclusively filled by men. Following the EEOC's complaint, Joe's hired 19 female servers (out of 88) from 1991 to 1995. This is not a BFOQ case because Joe's never argued that women *could not* do the job, but rather Joe's historically preferred male servers to "emulate Old World traditions." In fact, the EEOC's allegation was that "Joe's reputation for hiring only male food servers resulted in almost no women actually applying for food server positions at Joe's."[4]

Understanding the nuanced nature of the BFOQ defense, let's now turn to the restaurant case review. I will begin with the case that sparked my renewed interest in the topic (*Rafael Ortiz v. DMD Florida Restaurant Group, 2016),* then turn to other notable cases on the topic.[5]

The Current Case

On June 29, 2016, a lawsuit was filed against a Twin Peaks Restaurant in Davie, Florida (*Rafael Ortiz v. DMD Florida Restaurant Group, 2016)*. For those unfamiliar with the Twin Peaks chain,

it is a "breastaraunt" (a term with which I was unfamiliar prior to writing this article) that is apparently similar to a Hooters although its specialty is "comfort food" rather than wings and its theme is "alpine" rather than owls.

In the suit, Rafael Ortiz,[6] a male applicant who applied on July 30, 2015, for a job as a restaurant server, was denied employment because he was a male. The server positions are referred to as "Twin Peak Girls." The job postings for the position indicated that men would not be hired for the server positions, and the manager on duty said that the, "positions are reserved strictly for females."

The Twin Peaks website states:

> Here at Twin Peaks, we offer everything you crave and more. Hearty made-from-scratch comfort food, draft beer served at a teeth-chattering 29 degrees and all the best sports in town shown on high definition flat screens. All of this is served by our friendly and attentive Twin Peaks Girls, offering their signature "Girl Next Door" charisma and playful personalities to ensure that your adventure starts at the Peaks.

> Be a Twin Peaks Girl! The Twin Peaks Girls are the hosts of the party bringing the Twin Peaks experience to life while serving high quality eats and drinks. They have a "girl next door" personality, offering a playful and energetic hospitality to our guests. Twin Peaks Girls enjoy flexible scheduling, great tips, modeling and travel opportunities. If you think you can work it, click here to find the nearest location to audition! Grab your favorite outfit, glam up your hair and make-up, and visit us today.

As mentioned previously, this case is reminiscent of the Hooters cases from the 1990s as well as the more recent Lawry's case. These cases center on the question of whether sex can be a BFOQ for positions such as restaurant servers. The courts have previously ruled that sex is not a BFOQ for flight attendants (*Diaz v. Pan American Airways*, 1971; *Wilson v. Southwest Airlines*, 1981). Interestingly, none of the famous restaurant server cases was ever decided by a judge or jury: All were settled prior to trial.[7]

The restaurant cases have three similar sets of facts:
- The restaurants employed only women in the server positions but hired both men and women into positions such as bartender and cook.
- Servers made the most money.
- The restaurants did not deny that they only hired women for server positions but argued that the women-only requirement was part of the restaurant theme in which the servers wore themed uniforms or costumes.

St. Cross v. Playboy Club (1971)

The earliest restaurant BFOQ case is probably, *St. Cross v. Playboy Club* (1971). This is an interesting case in that the plaintiff, Margarita St. Cross, was a female Playboy bunny who was fired because she did not meet the employer's weight standards. On December 17, 1971, the New

York Human Rights Appeal Board ruled that the firing was legal, and although this was not a hiring case, the board for some reason opined that, "Although the issue is not stressed, it is to be noted in passing that the restriction to females only of the eligibility for employment as a Bunny constitutes a bona fide occupational qualification and as such is exempt from the provisions of section 296 of the Human Rights Law. This is somewhat similar to a juvenile part in a theatrical production."

Although not related to this article, I think *TIP* readers will find the Playboy evaluation scale to be of interest[8]:

1. A flawless beauty (face, figure, and grooming)
2. An exceptionally beautiful girl
3. Marginal (is aging or has developed a correctable appearance problem)
4. Has lost Bunny image (either through aging or an uncorrectable appearance problem)

Guardian Capital Corporation (1972)

On July 18, 1972, a Ramada Inn in Binghamton, NY fired the male servers in its bar and replaced them with women in sexy outfits. Two of the fired waiters, John Plebani and Gregory Wilson, filed separate complaints with the NY State Division of Human Rights alleging sex discrimination. Ramada Inn countered with the sex as a BFOQ defense which neither the division nor the Human Rights Appeal Board found to be valid.

What makes the Ramada Inn cases interesting is that the appellate court, although upholding the division's decisions in both the Plebani and Wilson cases, questioned how the division could rule one way in the Playboy Club case (i.e. sex can be a BFOQ) and another way in the Ramada Inn case (i.e. sex cannot be a BFOQ). The court stated, "It would seem that the division's position in this case involving a small entrepreneur in Binghamton, New York differs widely from their stated thinking in the *Playboy Club* case. Can it be that immense wealth and great influence make a difference?"

EEOC v. Hooters (1989, 1991, 1993, 1994)
This is a four-act story.

Act I (1989). In March, 1989, Mike Albergo was turned down for a job as a bartender at a Hooters restaurant located in Port Richey, FL. He filed a complaint with the EEOC who agreed in 1990 that he was not hired because he was male. In a letter summarizing EEOC's findings, EEOC district director Federico Costales wrote, "Hooters fails to hire males as bartenders as a class. The evidence establishes a violation of Title VII" (Hayes, 1990).

Albergo eventually filed a lawsuit seeking $125,000. The Hooters co-owner, Ed Droste, did not deny that Hooters only hired female servers and bartenders because the "cheerleader, surfer girl" is an important component to the restaurant's image. He further stated that, "We believe

we're on firm legal ground here …We're staffed the same way as a play or a Broadway musical" (Restaurant Chain Accused, 1991).

Albergo fancied himself as a gender pioneer, stating, "In Florida, the male species only get the pig jobs back in the kitchen because the girls bring in the business. I'm like the first girl that joined the Army" (Hayes, 1990). The lawsuit was settled out of court late in 1991 (Rodricks, 1995).

Act II (1991). On October 22, 1991, EEOC filed a Commissioner's Charge[9] alleging that Hooters only hired women to be "Hooters Girls." The company affirmed that this was their policy and unabashedly argued that:

- "[T]he element of female sex appeal is prevalent in the restaurants, and the company believes the Hooters Girl is as socially acceptable as a Dallas Cowboy cheerleader, Sports Illustrated swimsuit model, or a Radio City Rockette."
- The primary function of Hooters Girls was, "providing vicarious sexual recreation" (Bovard, 1995).
- "The business of Hooters is predominantly the provision of entertainment, diversion, and amusement based on the sex appeal of the Hooters Girls" (Bovard, 1995)

In February, 1995, the EEOC asked Hooters to establish a $10 million settlement fund to be distributed among the 1,423 male applicants already identified by EEOC as having been denied jobs as servers, accept *unlimited* liability for any additional men who come forward as victims, and abandon their female-only Hooters Girl policy (Bovard, 1995). When Hooters did not agree with this offer, the EEOC countered with a $22,171,421 *limited* liability settlement offer.

On February 15, 1995, Hooters took on the EEOC in an unprecedented public relations campaign that eventually pressured EEOC into dropping the case. The $1 million campaign involved media ads featuring a hairy "Hooters Guy,"[10] a billboard campaign featuring the slogan, "Washington, get a grip," and an appeal to Hooters customers to write to congress. To help convince Congress, Hooters provided postcards and orange Frisbees with a "Hooters Guy" sticker that customers could send to their Congressional representative. According to a 1995 article in the *Washington Post*, "tens of thousands" of these Frisbees were sent to Congress, many of which contained crude or threatening language (Grimsley, 1995). The PR campaign had at least some effect as Illinois Congressman, Harris W. Fawell, publically chastised the agency and asked the EEOC to justify its investigation.[11]

On November 15, 1995, The PR campaign heated up with a 100 Hooters Girl march on Washington, DC in which marchers held banners with slogans such as, "100 Angry Women and it's not PMS" and "Men as Hooters Guys – What a Drag" (Horovitz, 2013). The campaign also included full-page ads in both *The Washington Post* and *USA Today*.

In November 21, 1995, EEOC responded to the PR campaign with the following press release:

EEOC COMMENTS ON HOOTERS' PRESS OFFENSIVE

WASHINGTON -- Any legally sophisticated employer such as Hooters is well aware that the EEOC is prohibited by law from publicly discussing any pending investigation. As a result, we can neither confirm nor deny the existence of an ongoing investigation against Hooters or any other employer. EEOC, therefore, cannot respond to the public relations offensive recently initiated by Hooters.

We feel it important to point out, however, that a private class action lawsuit -- in which EEOC is not a party -- was brought in December 1994 by individual men who believe that they were discriminated against by Hooters' hiring practices. The case is pending in federal court in the Northern District of Illinois (Chicago).

Given the pendency of this private action, we fail to understand what Hooters is seeking to accomplish through this expensive, well-orchestrated campaign other than to intimidate a federal law enforcement agency and, more importantly, individuals whose rights may have been illegally violated.

As one would imagine, the media had a field day with this case. Some media attempts at humor included:
- "It's not that the EEOC doesn't give a hoot about the restaurant…"
- "Equal employment action's a hoot."
- "In September 1994, after sampling an unknown number of happy hours and Buffalo wings, the EEOC decreed that the business of Hooters was food, and that "no physical trait unique to women is required to serve food and drink to customers in a restaurant."
- "Hooters' Owners Cleaving to a Defense That's a Bust"

On March 6, 1996, the EEOC formally ended its investigation in a letter written by EEOC Chairman Gilbert Casellas to Congressman Fawell in which Casellas stated, "Denying any American a job simply because of his or her sex is a serious issue which should be taken seriously. The particular factual issues raised by Hooters do not transform this into a frivolous case or a subject for locker-room humor." But, "it is wiser for the EEOC to devote its scarce litigation resources to other cases."

Act III (1993). While the EEOC Commissioner's investigation was occurring, three additional complaints were filed with the EEOC: One by Savino Latuga and David Gonzales on February 12, 1993 against an Orland Park, IL Hooters; a second by John Ginter and Patrick Salisbury on April 8, 1994 against a Downers Grove, IL Hooters; and a third in by four men in Maryland. After a complicated set of legal events, these suits were subsequently combined and a private class action lawsuit was filed on January 25, 1995 (*Latuga v. Hooters,* 1995). On March 29, 1996, Magistrate Judge W. Thomas Rosemond certified the class to include all men who applied to front-of-the-house positions to any Hooters restaurant since April 19, 1992.

Hooters eventually settled the case and a consent decree was entered on November 25, 1997 for $3.75 million. Although such an amount would seem to have been a defeat for Hooters, the terms of

the settlement allowed Hooters to continue to only hire women for the server positions. As part of the settlement, Hooters agreed to create three gender neutral positions.

Act IV (2009). A similar lawsuit was filed in Corpus Christi, Texas. In this case (*Grushevski v. Texas Wings Inc.*, 2009), Nikolai Grushevski alleged that in May of 2008, he applied for a job as a waiter at the local Hooters and was told by the restaurant manager that Hooters would not hire men for waiter positions. Again, Hooters did not deny its policy. In 2009, a confidential settlement was reached that apparently allowed Hooters to continue its practice of only hiring female servers. As of 2016, Hooters continues to hire only women for the server positions. The company's position is that (Shamsian, 2015):

> *Typically, gender based hiring is not permitted ... The law allows the discrimination when it is necessary for the purpose of authenticity or genuineness as for an actor or fashion model. While we offer world famous wings and burgers, the essence of our business is the Hooters Girl and the experience she provides to our customers. Hooters Girls are entertainers. They audition for their roles and, once hired, they must maintain a glamorous appearance, and sing, dance and engage the customers to provide a unique Hooters experience.*

EEOC v. Lawry's (2009)

In this case, Brandon Little, a male busboy, complained in 2003 that he was not hired by Lawry's Restaurants—famous for their prime rib—as a server due to his sex. There was no dispute that from 1938–2004, Lawry's had a policy of only hiring women into these positions.[12] From 2004 through 2006, the EEOC and Lawry's engaged in unsuccessful negotiations and on March 31, 2006, the EEOC filed a lawsuit against Lawry's. On November 2, 2009, the EEOC and Lawry's reached a $1,025,000 settlement including $500,000 to class members as well as $525,000 for future recruitment advertising and manager training.

Parting Thoughts

Successful BFOQ cases are rare, and given that we have minimal guidance from the courts, employers should use extreme caution in using sex, race or national origin to make employment decisions. What will happen in the Twin Peaks case? If history repeats itself, it will probably be settled prior to trial, and the I-O world will yet again be deprived of a colorful case law example to use in class lectures.

Notes

[1] Michael Surrette (1995; Surrette & LeGrand, 2015) of Springfield College has reviewed the cases involving sex as a BFOQ for prison guards in two interesting conference presentations that reveal a complex and inconsistent pattern of court decisions.
[2] Cavico and Mujtaba (2016) provide an excellent legal review of the BFOQ defense.
[3] BFOQ cases are limited to religion, sex, or national origin (Cavico & Mujtaba, 2016).

[4] This was a case with lots of twists and turns. The district court originally found Joe's guilty of adverse impact, the appellate court rejected that finding and remanded the case for the district court to reconsider a disparate treatment charge, the district court subsequently agreed that it was disparate treatment, and another appellate court agreed that it was disparate treatment.

[5] Table 1 provides a timeline for the BFOQ cases outlined in this review.

[6] Interestingly, Ortiz reportedly agreed to a settlement in a similar lawsuit against a Pembroke Pines, FL, Hooters in 2011 (Farzan, 2016).

[7] Three cases in the 1970s were decided by the New York State Division of Human Rights but not a court per se.

[8] http://njlegallib.rutgers.edu/misc/aromi.pdf

[9] Most EEOC cases begin with a complaint from an applicant or employee and EEOC then represents the person filing the complaint. With a Commissioner's Charge, however, EEOC is focusing on systemic discrimination cases which it defines as "a pattern or practice, policy, or class case where the alleged discrimination has a broad impact on an industry, profession, company, or geographic area.

[10] The man featured as the "Hooters Guy" was Vince Gigliotti, a manager at the Hooters in St. Petersburg, FL.

[11] An interesting piece of trivia: The Hooters legal team included Don Livingston, former general counsel to EEOC!

[12] They stopped this policy in 2004 and began hiring both men and women into the server positions.

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Table 1

Timeline for Restaurant BFOQ Cases

Date	Case	Event
12/17/1971	St. Cross v. Playboy Club	NY Human Rights Appeal Board opines sex is a BFOQ for Playboy bunnies
7/18/1972	Ramada Inn: Plebani/Wilson	The Ramada Inn in Binghamton, NY establishes policy of women-only bar servers and fires two male servers: John Plebani and Gregory Wilson
7/10/1973	Ramada Inn: Wilson	Wilson files sex discrimination complaint with the NY State Division of Human Rights
6/28/1973	Ramada Inn: Plebani	NY State Division of Human Rights rules sex is not a BFOQ for Ramada Inn bar servers
4/30/1974	Ramada Inn: Plebani	NY Human Rights Appeal Board affirms that sex is not a BFOQ for Ramada Inn bar servers
6/18/1974	Ramada Inn: Wilson	NY State Division of Human Rights rules sex is not a BFOQ for Ramada Inn bar servers
11/21/1974	Ramada Inn: Plebani	Appellate Division of NY Supreme Court affirms that sex is not a BFOW for Ramada Inn bar servers
1/10/1975	Ramada Inn: Wilson	NY Human Rights Appeal Board affirms that sex is not a BFOQ for Ramada Inn bar servers
March, 1989	Hooters I	Mike Albergo denied job as Hooter's server in Florida because he is a male
1990	Hooters I	EEOC charges Hooters with sex discrimination
10/22/1991	Hooters II	EEOC files Commissioner's Charge against Hooters for sex discrimination
"Late in 1991"	Hooters I	Case is settled out of court
2/12/1993	Hooters III	Latuga and Gonzalez file sex discrimination complaint with EEOC against Orland Park, IL Hooters
4/8/1994	Hooters III	Ginter and Salisbury file sex discrimination complaint with EEOC against Downer Grove, IL Hooters
1/25/1995	Hooters III	Latuga, Gonzalez, Ginter, and Salisbury complaints combined into private class action suit
2/15/1995	Hooters II	Hooters engages in public relations campaign against EEOC
11/15/1995	Hooters II	100 Hooters Girl march in Washington, DC
11/21/1995	Hooters II	EEOC responds to Hooters in a press release
3/6/1996	Hooters II	EEOC drops charges against Hooters
3/29/1996	Hooters III	Court certifies class for litigation
11/25/1997	Hooters III	Hooters agrees to $3,750,000 settlement
3/31/2006	EEOC v. Lawry's	EEOC files sex discrimination lawsuit
May, 2008	Hooters IV	Grushevski is denied job at a Corpus Christi, TX Hooters
1/8/2009	Hooters IV	Grushevski files law suit against Hooters
4/13/2009	Hooters IV	Hooters settles with Grushevski
11/2/2009	EEOC v. Lawry's	$1,025,000 settlement reached
7/30/2015	Twin Peaks	Rafael Ortiz is not hired as a server at a Twin Peaks Restaurant in Davie, FL because he is male
6/29/2016	Twin Peaks	Ortiz files discrimination law suit against Twin Peaks

I-O Graduate Program Rankings: Update

Nicholas P. Salter, Joseph A. Allen, Allison S. Gabriel, Loren J. Naidoo, and David Sowinski

In the summer 2016 issue of *TIP* (Salter et al., 2016), we put out a Call for Proposals for updated I-O graduate program rankings. In this call, we were looking for new and unique methodologies for ranking I-O graduate programs that reflect the diversity of values and strengths across our field. We are pleased to announce we have conditionally accepted five proposals. Each of these teams will now conduct their project (which we hope all SIOP members will help with once data collection begins); we anticipate the final rankings will be published in the summer 2018 issue of *TIP*.

Please note that the goal of this project is to make our methodologies public before data collection to reduce the likelihood of researcher degrees of freedom influencing the results. Although frequently unintentional, it is all too common for analytic decisions to be driven in part by the results that follow. Our goal is to achieve transparency in the way rankings were conducted and to present multiple methodologies, to aid students and educators in their decision making. For more information about preregistration, see Open Science Framework https://osf.io, or List and McDaniel (2016).

Finally, another goal of this announcement is to "heads-up" all *TIP* readers that sometime next spring, you will receive requests to complete a survey gathering data for these projects. Please be sure to fill it out! If you don't, your program may not be represented in the rankings (and therefore the rankings won't be as complete as possible). It is important for as many SIOP members to help with data collection by completing survey requests next spring as possible. We thank you in advance for your participation!
Below are brief summaries of the projects.

A Proposal to Rank I-O Master's Programs Using Objective Data From I-O Coordinators

Stephen Vodanovich Ph.D., Valerie J. Morganson, Ph.D., and Steven J. Kass, Ph.D.**,** University of West Florida

Our proposal to rank terminal MA/MS programs plans to collect objective, quantifiable data, via an online survey, from coordinators of MA/MS I-O programs. Our goal is to identify and place various criteria into conceptually similar clusters. This will allow the ranking of programs within discrete categories, as well as provide an overall ranking. Examples of criteria and related clusters include: (a) applied experience (e.g., number of I-O classes requiring external consulting projects, percent of enrolled students who choose and complete internships annually, number of I-O classes requiring formal presentations for applied audiences), (b) faculty expertise/infor-

mation (e.g., percent of I-O faculty with consulting experience, percent of I-O faculty who supervise students on applied projects, number of I-O faculty), (c) student accomplishments/information (e.g., percent of graduates who obtain work in an I-O-related job within a year after graduation; percent of student members of an I-O-related student chapter (SHRM, ATD); percent of students with assistantship positions), and (d) curriculum (e.g., total required I-O program credit hours; number of required internship hours; ratio of full-time I-O faculty to I-O master's students; frequency of I-O course offerings; explicit coverage of consulting skills, legal issues, ethical issues, and diversity).

Rankings of I-O Psychology Master's Programs Based on Program Experience and Satisfaction: A Multiple-Perspective Evaluation

Yalcin Acikgoz, Ph.D., Tim Huelsman, Ph.D., Amanda Dixon, B.A., Amanda Ross, B.A., Jessica Swets, B.A., Ryan Olsen, B.S., and Stephanie Jeffer, B.S., Appalachian State University

Although the importance of objective outcomes such as research output or graduation rate are beyond any dispute, it is also true that program experience is a factor that is likely to be taken into account by prospective graduate students. Especially for master's level programs in which there is a weaker emphasis on research productivity, program experience matters. Accordingly, this proposal, which is aimed at ranking master's level programs, focuses mainly on soft measures of program success such as program culture, program resources supporting student success, and overall satisfaction with the program. This will ensure that in addition to objective outcomes, program experience is also reflected in the rankings. In order to provide a different and rich perspective of program success and achieve comprehensiveness, the team will be collecting data from current students, alumni, and employers of recent alumni to make sure each group of stakeholders provide input in the rankings.

An Interdisciplinarity Index for I-O Psychology Graduate Programs

Richard N. Landers, Ph.D., and Michael B. Armstrong, M.S., Old Dominion University

In science, a discipline can be defined as a group of researchers with a central problem to be solved, agreed-upon facts relevant to solving that problem, producing explanations, goals and theories to address that problem (Wagner et al., 2011). Importantly, disciplines have existed in science for only the last few hundred years; science has historically taken a "big tent" approach, with researchers across the world collaborating as needed. The shift over time to discipline-centered science has had numerous effects, both positive and negative. In response, there is an increased call among funding agencies to reward and recognize interdisciplinary research. Despite this, I-O psychology has no way to identify successful interdisciplinary researchers. If a prospective graduate student wants to pursue graduate education with a broad perspective, or even graduate education with a particular interdisciplinary impact, conducting research that benefits those both inside and outside of I-O psychology, there is no clear way to identify which programs will most likely provide that opportunity. To provide guidance to such students, we

will develop several indices of interdisciplinarity to capture the degree to which I-O psychologists contribute to other disciplines and also are influential within other disciplines. Furthermore, we will present this information within an analytic dashboard, demonstrating the most common disciplines outside of I-O psychology that those programs contribute to and influence.

Ranking PhD I-O Programs by Quantity and Quality of Development Opportunities

Nicholas Howald, B.A., Samantha Nesnidol, B.A., and Kristin Horan, M.A., Bowling Green State University

The proposed study will rank PhD I-O programs according to the type and quality of development opportunities they offer to graduate students. These development opportunities will be categorized into three areas: applied, academic (teaching), or academic (research). Development opportunities are defined as aspects of a program that provide graduate students the chance to develop knowledge, skills, and abilities that are relevant to these three broad areas of I-O. An example development opportunity for the applied category is the presence of an in-house consulting firm; an example from the academic (teaching) category is the opportunity for students to serve as an instructor of record. Graduate students will rate their programs on each of the development opportunities with regard to (a) whether or not the program offers that opportunity and (b) how early it is offered. Subject matter experts (SMEs) will also provide ratings of importance of each opportunity. The student ratings will be weighted by the SME ratings before being averaged. This will result in a single score for each program in each of the three areas. This ranking system will allow prospective students to compare programs within three broad areas of I-O, thus giving them the opportunity to select programs based on their respective interests and career goals. The provision of three separate scores for each program (rather than one holistic rating) also allows programs to showcase their strengths in specific areas.

I-O Graduate Programs Rankings Based on Student Perceptions

Jenna-Lyn R. Roman, B.A., Baruch College, and Christina N. Barnett, B.A., University of South Florida

Prospective graduate students must make informed decisions about the program they choose to attend based on many criteria to determine which school best fits their needs. Using student perceptions of quality to rank graduate schools is one method of evaluating those criteria (i.e., Kraiger & Abalos, 2004). This study will consist of three phases. During criterion development, a sample of current students will be asked to list the criteria typically used to evaluate or choose a graduate program (e.g., research interests of faculty, research productivity, availability of funding). Then, the list of criteria will be rated by a sample of program directors, faculty, and students to determine the importance of each variable as it relates to the quality of graduate programs. Ratings will be gathered through surveys from the current population of graduate students on their perceptions of their program during the final phase of this study to determine program rankings. Overall rankings and rankings of selected criteria (e.g., program culture, program costs) will be determined for PhD and MA/MS programs respectively. The primary goal of

this research is to update student evaluations of master's and doctoral programs. This will provide a more holistic evaluation of industrial and organizational psychology programs to prospective graduate students.

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Overview of Results From the 2016 SIOP Income & Employment Survey

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Have you been wondering about the latest SIOP salary report?

Itching to leverage data and insights in order to make your next move?

Hoping for some fresh numbers against which to benchmark or to cite when approaching your employer about that well-deserved raise?

Good news! These data have been collected and are now available in a variety of formats. Read on to learn more about key findings and trends found in the 2014 and 2015 income, benefits, and employment-related survey data. For those of you looking for more detail, the most recent technical report is available here and provides an in-depth reporting of the data collection effort, analyses, and results. For those who'd prefer a quick snapshot of the results, a summary of

the major findings are visualized in an accompanying infographic available [here](). Finally, we've planned two additional articles to provide a deep dive into the major correlates of income data as well as gaps in the incomes reported by various subgroups.

Background

For the past 2 decades, SIOP has partnered with the Human Resources Research Organization (HumRRO) every 3 years to collect, analyze, and report income and employment information from its members. The 2016 survey marked a change in this arrangement; for the current survey, a volunteer SIOP committee was asked to administer, analyze, and report findings. This change aligns well with former SIOP President **Steve Kozlowski's** call for a greater utilization of the volunteer forces available in our membership (2015).

As you review the results, you may notice some changes in style and output (e.g., infographic); we like to think our added touches contribute value to this continued effort. Of course, we would love to hear your feedback, answer any questions, or provide any additional information that we may have missed; email us your thoughts [here]().

Survey Preparation and Administration

The 2016 survey was administered using Sirota Survey Intelligence ("Sirota"); as such, Sirota personnel assisted in the survey design, programming, administration, and data collection. In addition, the chairs of multiple SIOP committees were asked to review the survey and offer feedback. Their review resulted in several updates, including an expanded list of certifications, revised background information categories (e.g., added "International Affiliate" to the membership item), and the deletion of a section focused on measuring the income and employment impact of the 2008–2009 recession. Additional reviews were conducted by members the Professional Practice and Membership Committees in order to ensure (a) proper operation of text boxes and response options, (b) proper item branching and page continuation, (c) inclusion of all relevant information, and (d) formatting and spelling accuracy.

The final draft of the survey was pilot tested with several members of the Professional Practice, Membership, and Scientific Affairs Committees. Representatives from Sirota, SIOP, and the income survey team reviewed respondents' feedback, making final updates based on this review (e.g., expanding list of metro areas to measure respondents' location, clarify survey instructions).

The survey was launched on June 16, 2016. Despite pilot testing, several respondents reported technical issues preventing survey completion. In response, the survey was paused while these issues were addressed. The survey was relaunched on June 21, 2016 and closed on July 18, 2016.

Sample Characteristics

A link to the survey was sent via electronic mail to 4,996 members of SIOP with active email addresses on record. A total of 1,199 responses were received, representing a 24% response rate.

After data cleaning (which included removing respondents who did not provide income information for 2014 and 2015), a total of 1,120 usable responses remained. Characteristics of this sample can be seen in Table 1. For all analyses, we focused on data provided by the 1,069 respondents who indicated that they worked full time.

As has been the case in prior survey administrations, the percentage of female respondents has increased, representing 49% of current responses. Similarly, the percentage of master's degree respondents has increased over time, from 7% in 2007 to 23% in the current survey. These results mirror SIOP membership population representation; 77% of SIOP members hold doctorate degrees, whereas 23% either hold a master's degree or are considered ABD.

The current sample is also reasonably similar to the SIOP membership population as a whole with regard to membership types, industry, and years of experience. The sample included a slightly greater percentage of members than that of the population (62.2%) and slightly lower percentages of Associates, Fellows, and International Affiliates (23.1%, 6.3%, and 8.4 %, respectively). Although the percentage of respondents representing different industries was similar to that of the 2012 income and employment survey sample (Khanna, Medsker, & Ginter, 2013), the private sector was slightly overrepresented when compared with the SIOP membership population; 51.0% of the current sample reported working in the private sector whereas 46.3% of the SIOP membership population works in the private sector. Finally, the sample was fairly representative with regard to years since doctorate with slightly more of the sample reporting earning their degrees 25 or more years ago than is found in the overall SIOP membership population (25% in the population vs. 18% in the sample). A more detailed review of the representativeness of this sample is provided in the technical report here.

Table 1
Sample Characteristics Across Prior Survey Administrations

	1982	1988	1994	1997	2000	2003	2006	2009	2012	2015
Gender										
Men	84%	79%	71%	67%	65%	58%	58%	54%	56%	51%
Women	16%	21%	29%	33%	35%	42%	42%	46%	45%	49%
SIOP membership type										
Associate	n/a	10%	6%	7%	10%	12%	14%	14%	15%	17%
Intl Affiliate	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3%
Member	n/a	82%	86%	86%	83%	82%	80%	80%	79%	74%
Fellow	n/a	8%	9%	7%	7%	6%	6%	6%	6%	6%
Employment status										
Full time	n/a	87%	89%	86%	86%	95%	97%	95%	95%	96%
Part time	n/a	5%	3%	8%	9%	5%	3%	5%	5%	4%
Location										
New York area	4%	14%	11%	10%	11%	7%	8%	7%	6%	6%
Elsewhere	86%	86%	89%	90%	89%	93%	92%	93%	94%	94%
Years since doctorate										

0- < 2	n/a	n/a	8%	11%	2%	11%	8%	9%	9%	5%
2-4	n/a	n/a	12%	13%	14%	19%	20%	16%	17%	18%
5-9	23%	24%	19%	18%	19%	25%	24%	22%	22%	20%
10-14	19%	22%	18%	14%	15%	13%	16%	18%	15%	16%
15-19	14%	18%	14%	14%	13%	10%	10%	10%	14%	11%
20-24	n/a	n/a	14%	12%	14%	8%	7%	9%	7%	12%
25 or more	n/a	n/a	15%	19%	25%	14%	15%	16%	18%	18%
Degree										
Doctorate	n/a	n/a	n/a	92%	88%	87%	87%	86%	83%	77%
Master's	n/a	n/a	n/a	7%	12%	13%	13%	14%	17%	23%

Note. "n/a" indicates that data are not available. Statistics include both those with master's and doctorates, except for years since doctorate and the doctorate category in the degree variable, which only include those with doctorates. Doctorate includes those with PhD, PsyD, and EdD.

Good News! Our Incomes Are Rising!

The median primary income for an I-O psychologist has been rising over time, with an average increase of approximately $1,700 per year for master's level I-Os and $2,200 per year for doctorate level I-Os between 1999 and 2015. Figure 1 depicts the upward trend in earnings at both the master's and doctorate level. This upward trend is in line with documented inflation rates, indicating that these two degrees have maintained their relative value over time.[1]
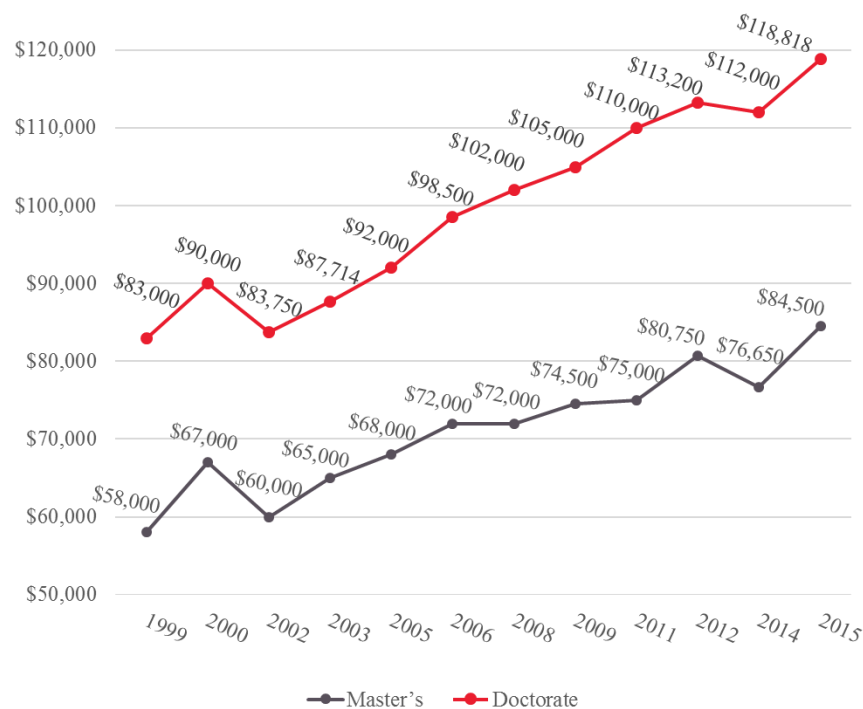

Figure 1. **Median Primary Income Over Time by Highest I-O Degree Achieved**

What Impact Does One's Degree and Experience Have?

Previous administrations of the SIOP salary survey have indicated that education and experience level influence reported earnings. For example, the correlation between years of work experience and 2012 primary income was .45 ($p < .05$) and between one's highest degree obtained and income was .20 ($p < .05$; Khanna et al., 2013). The current survey produced similar results; both relationships were significant ($p < .05$), with the relationship between experience being stronger ($r = .38$) than that of degree earned ($r = .23$). Below we provide a breakdown of differences across these various background variables.

Degree. On average, terminal master's degree programs are completed in 2.5 years whereas doctoral programs are completed in 5.3 years (Rentsch, Lowenberg, Barnes-Farrell, & Menard, 1997). What is the impact of those additional years of education? The difference in annual incomes reported across degree types is evident in Figure 1. Doctorate level I-Os reported earning 41% greater median primary income than did master's level I-Os. The average incomes of respondents holding doctorate degrees ($138,944) were significantly greater than those of respondents holding master's degrees ($93,943; $t(1061) = 7.06$, $p < .001$). Of note is the relative stability of this difference over time which peaked in 2011, when doctorate level I-Os reported earning 47% more, and hit its lowest point in 2000, when the reported incomes of doctorate level I-Os were 34% greater than those of master's level I-Os.

Years of relevant experience. Beyond educational background, experience also plays an important role in determining I-O income. As relevant experience accumulates, I-Os report earning higher annual income. On average, I-Os with master's earn $2,869 more for every year of experience; whereas, I-Os with doctorates earn an additional $3,047 for every year of experience.[2] Figure 2 provides a summary of median income by years of experience. Of note is the income plateau associated with 20 or more years of experience, indicating that, on average, income does not substantially increase beyond this point.
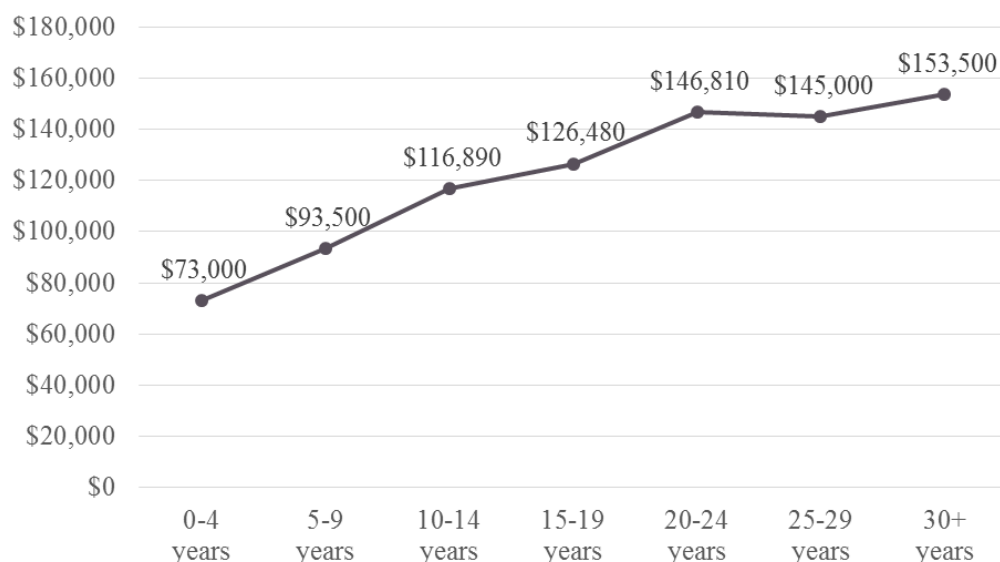

Figure 2. Median 2015 Primary Income by Years of Experience[3]

Starting salary. All you graduate students and recent grads out there may be wondering what you should expect to make as you begin your career. To provide an answer, we looked at the 2015 incomes of respondents who reported receiving their degree between 2013 and 2015. Those who recently received a doctorate degree earned a median primary income of $89,300 (*n* = 124) in 2015. Those with recent master's degrees reported a median primary income of $67,000 (*n* = 67) in 2015.

Area of Employment

Previous administrations of this survey have identified various employment factors that are likely to impact income, including career path and employment location. For example, in 2012, the relationship between respondent's status as an academic and income was small yet significant (r = -.13, $p < .05$); current results mirror those previous findings (r = -.17, $p < .05$). Below we summarize income differences across career path, industry, and location.

Career path. A little less than a third (28.8%) of respondents reported working as an academic; whereas over two-thirds represented the practitioner population. Results indicated that career path produced a significant impact on income ($t(1063) = 2.77, p < .05$). As seen in Figure 3, practitioners also reported slightly higher median incomes than academics in 2015.
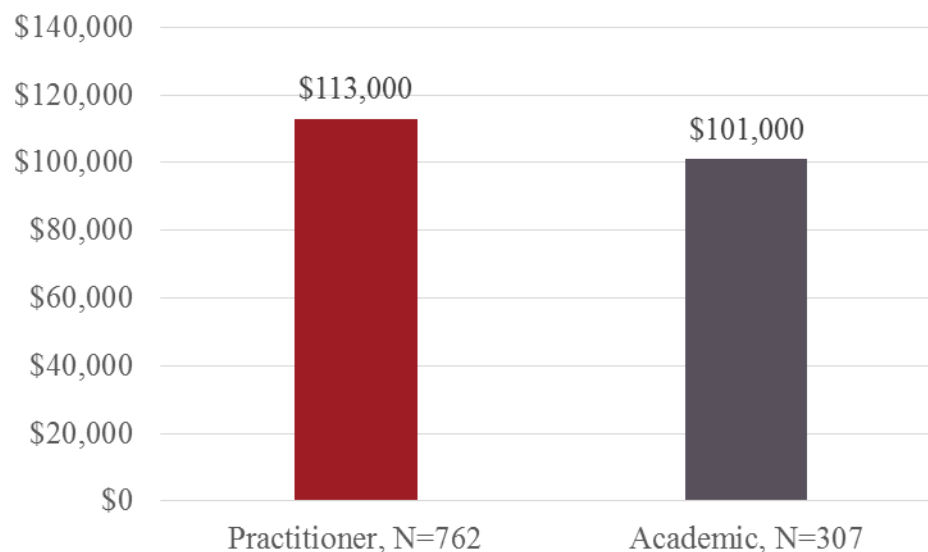

Figure 3. **Median Primary Income by Career Path[3]**

Differences between the incomes earned across different career paths could be masked by a potential confound of career path with highest degree earned. Indeed, although only 3% (*n* = 10) of academic I-Os report a master's as their highest degree earned, 31% (*n* = 297) of practitioners reported the same. Differences between these career paths become more pronounced when the highest degree earned is considered (see Figure 4); master's level practitioners earned 33% more than master's level academics, and doctorate level practitioners reported

earning 23% more than their academic counterparts. Thus, career path does appear to produce a substantial impact on income when degree is taken into account.

One final point of interest pertains to the number of hours that each career path reported working on average per week. Whereas I-Os working in academia made 23–31% less than practitioners with the same qualifications, they reported averaging 5 additional work hours per week; the median number of hours that practitioners reported averaging per week was 45, whereas the median number of average hours per week reported by academics equaled 50.
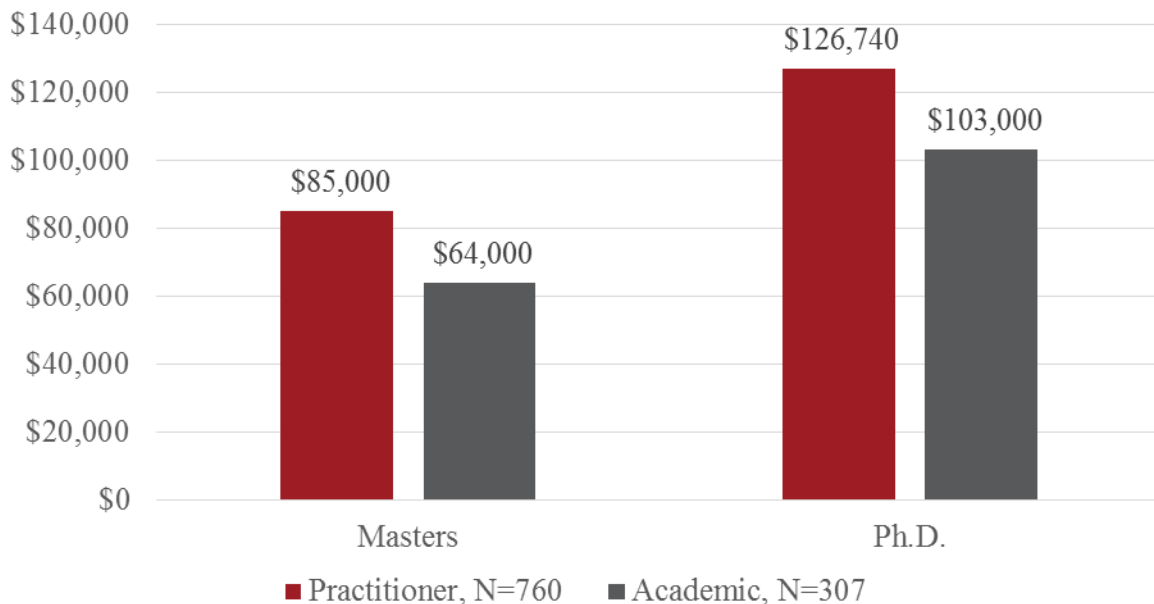

Figure 4. **Median 2015 Primary Income by Career Path and Highest Degree Earned**

*Industry***.** Survey respondents represented a number of industries ranging from IT and computers to government and military, with the two most common industries being academic (university or college) and consulting. Figure 5 provides the median annual income by industry for master's and doctorate level I-Os combined. Self-employed consultants and I-Os working in IT reported the greatest median primary incomes, whereas those in state or local government reported the lowest annual median incomes. The results related to self-employed consultants are likely driven, in part, by the variable nature of this industry; indeed, the incomes reported by self-employed consultants ranged from $25,000 to $1,000,000, representing the greatest variance (σ = $177,180.91) in income within the industries investigated.
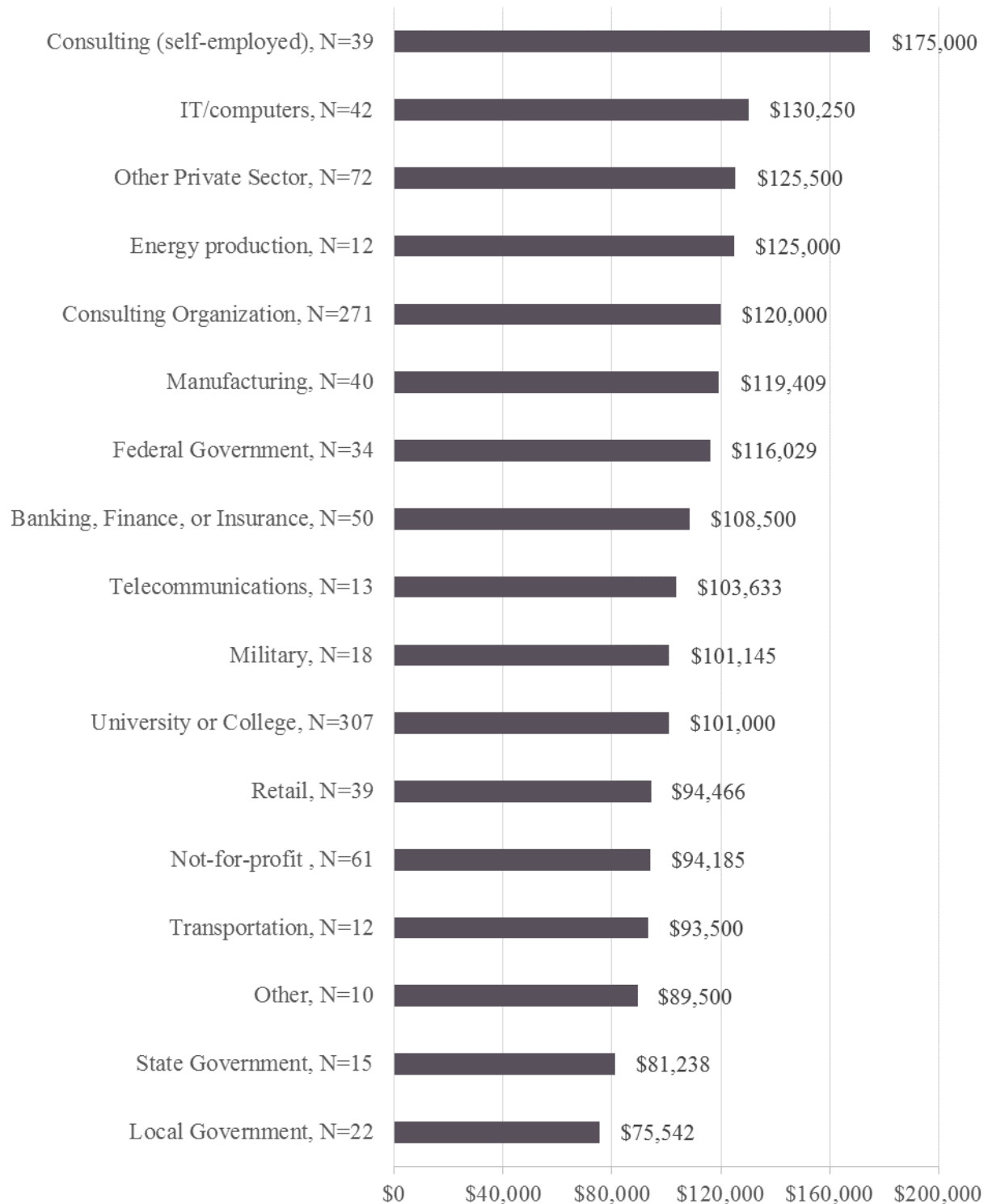
Figure 5. Median 2015 Primary Income by Industry[3]

Location

Although survey respondents represented a breadth of geographies, clusters of I-Os working in specific areas emerged. Table 2 presents the range of locations employing I-Os and provides median primary incomes associated with these areas for master's and doctorate level I-Os combined. Washington DC represented the most common location for I-Os, followed by Chicago, IL. Median primary incomes adjusted for cost of living[4] displayed a considerable amount of variance across location. Based on cost of living calculations, the Minneapolis/St. Paul, MN and Detroit, MI areas represent the locations in which I-Os earned the highest relative incomes; however, differences across geographic areas are likely impacted by differences in the percentage of doctorate respondents working in each area.

Table 2 presents the annual median income by location, including the percentage of doctorate and practitioner respondents working in each area. Locations with the lowest numbers of doctorate level I-O responding to the survey tended to also represent the areas where respondents reported receiving the lowest cost-of-living adjusted median incomes. For example, although respondents from Manhattan reported the lowest cost-of-living adjusted median incomes (i.e., $67,671), these respondents were also less likely to hold doctorate degrees than respondents working in other areas (i.e., 65% of respondents in Manhattan reported holding a doctorate degree vs. greater than 70% in other areas). Of note, is the dramatic difference in median income reported by respondents in Manhattan when compared with that of the 2012 survey; this and other differences over time are further explored in the technical report.

Table 2
Annual 2015 Primary Median Across Geographic Locations3

	N	Median income	Cost-of-living adjusted median income[4]	% doctorate respondents	% practitioner respondents
Atlanta, GA metro area	39	$ 115,000	$ 162,635	77%	85%
Baltimore, MD metro area	11	$ 103,000	$ 131,753	73%	45%
Boston, MA metro area	15	$ 125,000	$ 127,099	73%	80%
Chicago, IL metro area	55	$ 104,750	$ 125,143	80%	73%
Dallas, TX metro area	39	$ 113,000	$ 163,287	72%	95%
Denver, CO metro area	14	$ 80,425	$ 105,194	71%	71%
Detroit, MI metro area	17	$ 113,750	$ 165,920	82%	65%
Houston, TX metro area	15	$ 110,000	$ 155,248	87%	73%
Los Angeles/Orange Co., CA metro area	26	$ 126,590	$ 133,087	77%	88%
Manhattan, NY	20	$ 106,000	$ 67,671	65%	80%
Other New York metro area	43	$ 125,000	n/a	79%	81%
Minneapolis/St. Paul, MN metro area	36	$ 131,500	$ 170,021	81%	86%

Philadelphia, PA metro area	14	$ 137,350	$ 159,974	79%	43%
San Diego, CA metro area	13	$ 106,000	$ 111,356	85%	77%
San Francisco/San Jose, CA metro area	27	$ 123,000	$ 105,375	69%	100%
Seattle, WA metro area	25	$ 120,000	$ 134,806	76%	88%
St. Louis, MO metro area	13	$ 110,000	$ 162,837	85%	77%
Tampa, FL metro area	13	$ 123,000	$ 185,031	100%	54%
Washington, DC metro area	114	$ 114,833	$ 114,833	73%	92%
My office is located in Canada, but not in any of the above areas	12	$ 120,000	n/a	100%	8%
My office is located in the US but not in any of the above areas	365	$ 100,000	n/a	77%	58%
Other major US metro area[5]	11	$ 118,909	n/a	36%	18%
Other major Canadian metro area[6]	11	$ 132,166	n/a	91%	45%
Outside the US or Canada (please specify)	43	$ 108,750	n/a	72%	56%

Conclusion

Overall, these data point to the maintained value of our professional services. Comparisons with previous years' data collection efforts indicate that SIOP members report increases in median incomes that are in line with national inflation levels, ranging from a yearly increase of $2,869 for master's level I-Os and $3,047 for doctorates.

The results further indicate that several factors impact the annual primary median incomes reported by SIOP membership. Education level has a significant impact on median income, with the median income reported by doctorate level I-Os being $34,318 greater than that of master's level I-Os. Median income levels also varied across other employment-related factors, including relevant experience level, career path, industry of employment, and geographic location. In a future article, we'll provide detail around the relative contribution of these variables to the prediction of I-O income. We'll also take a closer look at gaps in income across various subgroups. Stay tuned for these additional insights and be sure to check out the technical report for greater detail around all of these findings.

Notes

[1] Using the United States Bureau of Labor Statistics (n.d.) Consumer Price Index inflation calculator, the median salary for a master's level I-O reported in 1999 ($58,000) would produce the same buying power as a salary of $82,514.92 in 2015. The median salary for a PhD level I-O reported in 1999 ($83,000) would produce the same buying power as a salary of $118,081.70 in 2015.
[2] Values reflect unstandardized slope coefficients derived via simple regression analyses.

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100 Years of Titles in the *Journal of Applied Psychology*

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To commemorate the centennial of the *Journal of Applied Psychology,* we analyzed 9,515 article titles to examine how *JAP* titles have changed over the last 100 years. We found dramatic increases in title length, use of the colon and question mark, and informality over time. We also found small increases in average word length. Leading organizational psychologists, including several current and former *JAP* editors, provide commentary on the causes and implications of these findings.

If you open a 1920s issue of the *Journal of Applied Psychology* and turn to the table of contents, what you find will be strikingly dissimilar to the *JAP* of today. Over its 100 year history, the *Journal of Applied Psychology* has borne witness to a number of changes in the field, and these changes have been reflected in the research accepted for publication to the journal. Some of these changes, of course, relate to the substance of the research itself, such as the shifting prevalence of various topics over time and the advancements in methodological and analytical techniques employed by

our researchers. That, however, is not what this article is about. Instead, we focus on a more subtle manner in which *JAP* articles have evolved over the last century: The titles are different.

Depending on who you ask, an article's title is either an incredibly important decision on the part of a researcher or an inconsequential afterthought. It may be argued that titles play a fairly critical role in the success of research endeavors, as they partially determine to what extent that article conveys the importance of the study, attract readers, and appear in response to database searches. On the other hand, a principled opinion may be that the substance of the research ought to speak for itself and that the function of a title should merely be to convey the content of that research. **Gilad Chen**, current editor of *JAP*, weighed in on this issue by stating: "In the grand scheme of things, I do not believe titles are all that critical[...] although they may play some role in the 'first impressions' readers make of articles."

Whether of any great importance in the grand scheme of things, article titles have certainly changed since *JAP's* inception. A cursory comparison of the most recent issue of *JAP* to earlier issues reveals obvious differences in length, punctuation, and tone. In commemoration of *JAP's* 100th birthday, we endeavored to explore the characteristics of article titles in *JAP* and examine how these characteristics have evolved over time. This is not the first time journal article titles have been the subject of investigation—researchers in other fields have explored the content of article titles (Siegel, Thacker, Goodman, & Gillespie, 2006), the relationship between title characteristics and citation count (Rostami, Mohammadpoorasl, & Hajizadeh, 2014; Subotic & Mukherjee, 2014), the role of humor in article titles (Sagi & Yechiam, 2008), and much more. However, the current study is unique in its focus on the field of organizational psychology and its longitudinal examination of title trends over an extended period of time.

In our investigation, we focused on four attributes of article titles which we suspected were likely to have increased during *JAP's* century of publication. These include title length, average word length, use of punctuation (including colons, question marks, and exclamation marks), and informal language or tone. In addition to reporting the results of our analysis, we also offer commentary provided by prominent members of the SIOP community to help understand the causes and potential implications of our findings.

Methods

Article titles were obtained from each issue's table of contents, accessed via the American Psychological Association website, beginning with Volume 1 Issue 1 (March, 1917) and ending with Volume 101 Issue 10 (October 2016). In total there were 9,515 *JAP* articles published during this time. Some nonstandard types of articles (e.g., book reviews, editor's notes, corrections) were removed from analyses, as the titles of these atypical article types would have obscured the results. After removing these, 8,266 article titles remained for analysis. For each of these titles, we calculated the number of characters, number of words, and average word length. A word was operationalized as any string of characters not separated by a space; thus, words including dashes (e.g., "meta-analysis" and "self-efficacy") were counted as a single word. Additionally, each title was

coded for whether it contained a question mark, colon, or exclamation mark (1 = *Yes*, 0 = *No*). The aforementioned calculations and coding were conducted using functions in Excel.

Finally, on a subset of 1,000 articles, we categorized each title according to whether it did or did not include informal or nonacademic language. For this analysis, we randomly selected 100 articles from each decade of *JAP* titles. Two raters independently coded each article for whether it included any nonacademic or informal language, such as the inclusion of idioms, first- or second-person phrases, rhetorical questions, humor, or everyday vernacular. Agreement between raters was 95.7%. In cases where there was disagreement, a third rater determined whether the title would be coded as academic or informal language.

Results

Title Length

Title length was operationalized as both the number of characters and number of words in the title. Table 1 presents the mean number of characters and mean number of words by decade. Figure 1 displays the mean number of title characters by year. The zero-order correlation between title characters and year of publication was $r = .481$. The correlation between number of words in title and year of publication was $r = .374$.

Table 1
JAP *Title Characteristics by Decade*

	N	Avg. chars	Avg. words	Word length	% with ":"	% with "?"	% informal
2010s	615	105.2	13.6	6.8	69.8%	13.7%	39%
2000s	1,048	100.7	13.1	6.8	61.6%	9.2%	19%
1990s	841	90.5	11.8	6.8	47.4%	7.7%	17%
1980s	931	82.1	10.9	6.7	39.4%	5.0%	13%
1970s	1,176	78.6	10.5	6.7	21.2%	1.5%	8%
1960s	863	69.3	9.4	6.6	11.8%	0.8%	3%
1950s	960	64.4	9.1	6.3	6.5%	1.7%	7%
1940s	693	66.4	9.7	6.1	6.5%	1.7%	9%
1930s	659	63.1	9.2	6.1	2.7%	1.2%	12%
1920s	480	58.2	8.6	6.1	4.0%	1.0%	12%
All	**8,266**	**78.9**	**10.7**	**6.6**	**28.2%**	**4.3%**	**16.6%**

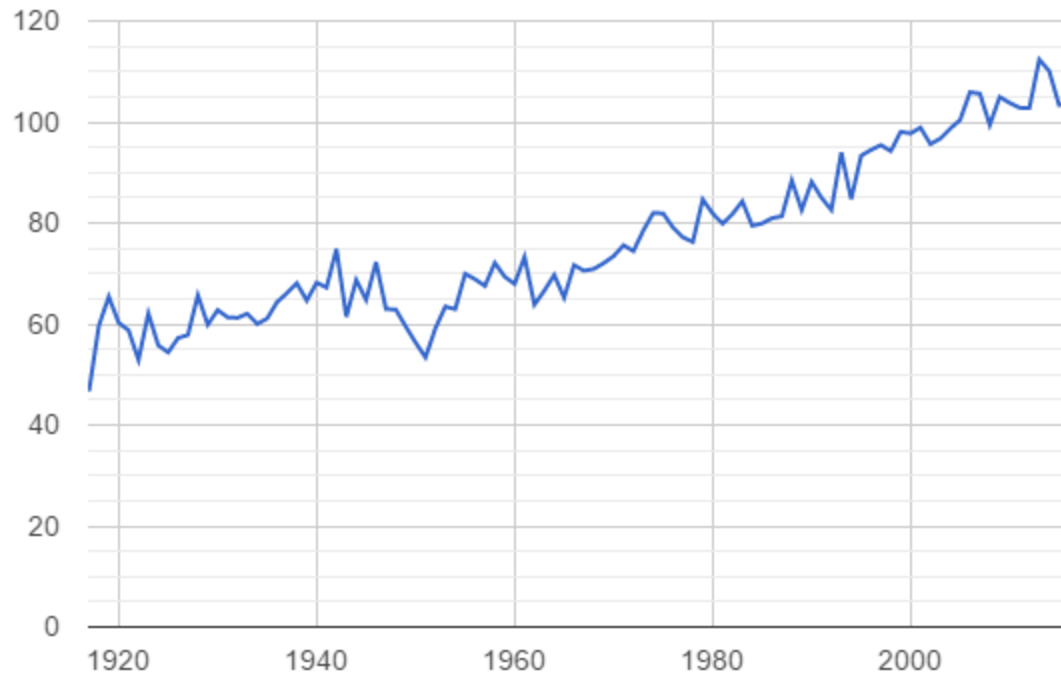Note. "2010s" includes years 2010-2016. "1920s" includes years 1917-1929.

Figure 1. Mean *JAP* Title Length (in Characters) by Year

Mean Word Length

Table 1 presents the mean world length of titles by decade. The relationship between mean word length and year of publication was $r = .244$.

Punctuation

Table 1 presents the percentage of articles that include a colon or question mark by decade. Exclamation marks were not included in this table, because only four articles used an exclamation mark in the title. The point-biserial correlation between the use of a colon and year of publication was $r = .489$. The correlation between the use of a question mark and year of publication was $r = .168$.

(Non-)Academic Language

Table 1 presents the percentage of article titles that use nonacademic or informal language by decade. The point-biserial correlation between the use of non-academic language in titles and year of publication was $r = .179$.

Discussion

As predicted, article titles in the *Journal of Applied Psychology* have changed considerably over the last 100 years.

The length of the average article title, measured by either number of characters or words, has increased dramatically and consistently over time. This mirrors findings found in other fields as well (Lewison & Hartley, 2005). The number of characters in *JAP* titles from the 2010s are fully 80% longer than those published in the 1920s. From the data, it is unclear whether this is attributable to a shift in research goals, practical changes in the field of applied psychology, a trend toward a more sesquipedalian writing style, or something else entirely. **Elaine Pulakos**, former SIOP president and repeat *JAP* contributor, chalks this up to the nature of the research itself: "Research has gotten more complex. Describing it in enough detail to convey what it's about simply takes more words." **Talya Bauer**, *JAP* associate editor, suggested the increase in title length may have something to do with making research easier to find via database searches: "The increase in title length makes sense to me[...] technology has changed how articles are discovered—online, rather than solely by reading them in the hard copies of journals or in reference sections." One reviewer of this article suggested that titles increasingly include not only the subject of the research but also the methodology used in the study, which necessarily would increase the length of the title. **John Campbell**, former *JAP* editor, suggested that the increase in title length may be related to other trends in the field, including growing article length, more frequent references to "theory" (Cucina & Moriarty, 2015), and the increased use of null hypothesis significance testing (Hubbard, 2016). Campbell suggested, "I think one cause of all this is the infusion of "new,' 'novel,' and 'interesting' theory for theory's sake into the requirements for being accepted for publication."

The prevalence of punctuation use in article titles has also changed strikingly. Once again, this trend in our field coincides with similar trends in other disciplines (e.g., Diers, 1994; Lewison & Hartley, 2005). Prior to the last few decades, the use of colons and question marks in article titles was very rare. In the 1920s, just 3.96% of titles contained a colon and only 1.04% contained a question mark. In contrast, since 2010 a staggering 69.8% of article titles have included a colon, and 13.7% have included a question mark. In order to understand this phenomenon, we spoke to a number of current and former *JAP* editors to provide insight into the increasing use of the colon and question mark in article titles. The general response was a shrug—as the research has become more complex, so have the article titles. **Christopher Berry**, current *JAP* associate editor, quipped: "If you're going to make your article titles so long, you have to throw some punctuation in there somewhere." Although the colon and question mark have become pervasive in article titles, *JAP* authors have not yet quite embraced the exclamation mark; only four articles in the history of the journal have included an exclamation mark in their title. The trailblazing article that first introduced the use of exclamation marks in *JAP* titles was published in 2006 by Rogelberg, Leach, Warr, and Burnfield: "'Not another meeting!' Are meeting time demands related to employee well-being?"

Finally, article titles are increasingly informal in their language and tone. The use of humor, idioms, rhetorical questions, the first and second person perspective, and other nonacademic elements has become pervasive, representing 39% of article titles since 2010. Use of informal language tends to correspond with the use of a colon, often falling into the format of "Idiom: Detailed Description of Research," for example, "When big brother is watching: Goal orientation shapes reactions to electronic monitoring during online training" (Watson et al., 2013). Such use of informal language often serves to catch the attention of busy readers. Elaine Pulakos notes the importance of the article title

in her decision to invest her time: "I think I read the title quickly, make a call on whether it's something I need or want to read and then move on." The desire for clever or "eye catching" titles while simultaneously presenting accurate information is a likely explanation for the increasing title lengths. Bauer accurately succinctly this plight: "If you are trying to generate a clever title, it is important to make sure it is both clever AND truly representative of what was studied." Although insisting that titles do not play a major role in his feedback as editor, Chen did note his preference for straightforward titles, adding that "while interesting, novel, or catchy titles are ok, I do not like catchy titles that mislead or overreach relative to what the article can speak to."

In many ways, the current study has offered more questions than answers. Additional research might help to unravel *why* we have seen such striking increases in title length, punctuation, and informality in article titles. The commentators in this article have suggested a number of potential explanations that merit investigation. Furthermore, more could be done to differentiate trends affecting *JAP* in particular versus those relevant to our field as a whole. Expanding the sample of article titles to include those from other leading I-O journals would be useful in this regard. Finally, additional research could help us to understand how the features of article titles explored in this study might impact how research is consumed. Research on the relationship between title features and citation count conducted in other fields (e.g., Rostami et al., 2014; Subotic & Mukherjee, 2014) provides a useful model for future studies in this direction.

Much like our field as a whole, the titles of articles in the *Journal of Applied Psychology* have evolved substantially over the last 100 years. We look forward to revisiting this topic a century from now to see how things progress.

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The Research Integrity Issue: Is There a Problem Behind the Problem?
A Reply to List and McDaniel

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I have no argument with List and McDaniel's discussion of personal integrity as a problem in research. I will begin with a story. Many years I and coauthors submitted an important, elegant and carefully designed paper to a major journal. Naturally it was rejected. But it finally found a home in a strange way. We had predictions for parts of the study because there were established literatures. But one aspect crossed three different literatures, and there was no theory there so we had nothing from which to deduce a specific hypothesis. Nevertheless the result came out as we expected. (There was no HARKing in what we had submitted). The action editor said, in effect: You need to make a theory up for that aspect before the paper will be accepted.

What was that about? The action editor held as an axiom the hypotheticodeductive method of science. As I have written elsewhere (Locke, 2007), this is dangerously narrow because science is above all an inductive process (Harriman, 2010). Theories need to be the end result rather than the starting point of a research program. But our journals force people to do the opposite. You need a theory (or to pretend you have a theory) or theories to begin with. Then if it comes out, the implication is that you are done. The theory is proved; end of theory building. If you try any form of replication, you may be told that you have found nothing new. At the same time, everyone is demanding replication studies, but exact replication does not build theories (Locke, 2015).

Lots of bad things can happen under the deductive model. People have to start with theories that are not yet validated. They are pushed to stretch for models. As a long time reviewer I have seen authors come up with two or three or more different (unrelated to each other) theories to justify the same hypothesis; they probably think this raises the odds for them. It probably does. When you use the deductive method, the prediction has to come out or you are doomed. As everyone knows, negative results are not wanted. No wonder people are tempted to push the moral envelope. When you have a system that is not totally rational, do not expect everyone to act rationally.

What are some journal policies that could help mitigate these problems and move real theory building forward? Here are some suggestions:

1. Allow studies to be submitted just based on questions (e.g., see Audia, Kristoff, Brown & Locke, 1996).
2. Allow hypotheses to be made solely on the basis of past results relating to the same phenomenon rather than requiring a formal theory or theories (see #5).
3. Allow hypotheses to be made based on introspection, a very important method (Locke, 2009).
4. Allow exploratory research aimed at discovery to be published if accompanied by a then-predicted replication of that finding.

5. Encourage replication with variation rather than exact replication (Locke, 2015); this helps theory building by establishing generality across, tasks, subjects, method, time span, design, level, culture, etc. (Locke & Latham, 1990). In the process this encourages the discovery of moderators (interactions, boundary conditions). This last allows negative results to be published, viz. X works only if Y.
6. Encourage programmatic research (implicit in #5).
7. Encourage the discovery of causal mediators; the more one knows about mediators the more confidence one can have in making predictions. (Mediators, of course, may be moderators.)
8. Discourage premature theorizing and hasty generalization. Solid theory building takes a long time.
9. Make introductions short and leave any discussion as how a given result might help move theory building forward to the discussion section.

The goal here is to move the journals from a deductive mode to an inductive mode. Inductive theories are open ended so a surprising result (if valid) is viewed as a potential benefit rather than as a threat. It could help the theory to grow. New discoveries can correct errors and/or allow refinements. It is amazing what a psychological effect the inductive method has on the theory builder. You can look forward to new discoveries rather than fearing them. (Obviously deduction is appropriate once there is good evidence for a theory.)

All this is not to say that my suggestions will eliminate QRPs. In the end every good researcher must create their own soul.

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P.S. See also "The Virtue of Persistence" by me, Williams, and Masuda, *TIP* April 2015, *52(4)*, 104.

On Becoming an Academic Orphan

Thomas F. Hilton

Recent *TIP* interest in academic genealogies got me thinking about how our own more proximal, and less linear, genealogies influence the evolution of our careers. Not unlike the fictional Luke Skywalker of *Star Wars* fame, my I-O Jedi training included three mentors: an Owen Lars figure, an Obi-Wan Kenobi, and a Yoda. Each contributed greatly to my personal and professional development, and all three signed my dissertation.

The most senior of my three mentors was the late Saul B. Sells, founding director of the Institute of Behavioral Research (IBR) at TCU. Saul was my Obi-Wan. Always calmly puffing his pipe, he patiently guided my *intellectual development* and encouraged my interest in philosophy and multivariate psychology. When Sells passed away in 1988, I still had 2 living major professors with whom to share triumphs, misfortunes, and insights: Steven G. Cole and **Lawrence R. James.** During the summer of 2014, both Steve and Larry passed away within weeks of one another, leaving me an academic orphan to recount the pervasive influence all three mentors had on my life.

Sells studied philosophy at Columbia where he worked with both Edward Thorndike and his major professor, Robert Woodworth (a student of William James). Sells was one of a handful of 1960s-era psychologists interested in interactionism (person × situation) and multivariate analysis. He served as managing editor of *Multivariate Behavioral Research* for 20 years. Even in the mid-1970s, the multivariate statistics and measurement tools essential for interactional research had not yet become mainstream, so we relied on beta versions of SPSS and LISREL. Sells recruited James partly because of Larry's strong background in multivariate statistics and partly because he had just completed a postdoc with the Navy examining the interaction of shipboard environments on sailor performance—what we call climate today.

Steve Cole was my Owen Lars—the practical uncle who guided my *academic development*. As chair of the TCU Psychology Department, Steve helped me get a fellowship at IBR and encouraged me to work with Larry. My editorial work with the Society for the Advancement of Social Psychology and APA's Division 8 was directly attributable to Steve's encouragement.

Larry James was unquestionably my Yoda. He guided *my applied skill development* along with two fellow padawans; research fellows John Bruni (WKU) and John Hater (FEDEX). We all worked on at least a half dozen projects assessing climate and validating personnel selection tools for government agencies and large corporations. When I joined Larry's lab, he had just landed a large multiyear grant to identify salient organizational factors that affected addiction treatment outcomes from the National Institute on Drug Abuse (NIDA). Those NIDA data and Larry's earlier Navy data became the raw material of my dissertation. Metaphorically, by the time I had to lead my first postdoctoral mission for the Galactic Alliance (serve as a principle investigator), I was confident of my ability to battle the Dark Side of mismanagement and ineffective leadership.

Ties to IBR, the Navy, and NIDA repeatedly shaped me professionally. Drafted in 1968, my career started as a reserve airman (E-3) with the Navy until graduation when I was commissioned as pilot, then later drove destroyers for four years. I met Larry by coincidence several years before I went back to school. We briefly shared a room at the Naval Station Subic Bay BOQ while grounded by a Philippines typhoon. I was enroute to my second tour of duty in Vietnam while Larry was in the Gulf of Tonkin collecting data from Navy crewmen. My post TCU academic career began at Southwestern Medical School. But after 3 years, fellow IBR alum Navy Lieutenant Mark Butler (now emeritus at UCSD), convinced the chief of the Navy Medical Service Corps to entice me back into uniform to lead a 3-year, Navy-wide a career development study. That led to a tour at the Pentagon helping oversee Navy's personnel and training research programs for the deputy chief of Naval Operations. One Navy assignment led to another, and before long I was a retired Captain.

I continued to work with Larry from time to time on various Defense projects as well as one commissioned by the White House. Later in my career, I managed an I-O lab for the FAA. That job had its roots in prior monograph Sells and I had published on air traffic controller selection. While at FAA, I learned a lot about labor relations and building work-team empowerment. The last 3 years of my time at FAA, I was detailed part time to head a project for the White House Office of Reinventing Government in the Clinton Administration. REGO as it was called was a wonderful opportunity to apply I-O psychology on a grand scale, influencing changes affecting the worklives of over 4 million military and civilian employees. Needless to say, climate and culture had starring roles in our efforts, and Larry was a great sounding board for new ideas. My multiagency REGO team surveyed the entire civilian workforce, a federal first. To no surprise, the workforce was delighted by REGO's changes. One happy spin-off of our project was that one of our team, Brigitte Schay (OPM retired), convinced the director of the Office of Personnel Management to adopt our survey system to monitor workforce morale every year: the *Federal Employee Viewpoint Survey*.

After the Navy and REGO, a fellow IBR alum at NIDA, Captain Bennett Fletcher (USPHS retired), invited me to infuse an organizational perspective into NIDA's health services delivery research program. It was fun working with an old pal on a challenging mission. Within 5 years, organizational factors were included in nearly every health services grant NIDA issued. So I handed off my portfolio to a new hire, and started a research program focusing on reengineering addiction treatment practices, merging implementation science with organizational change.

An inveterate boundary spanner, I was invited to join the NIH faculty where I taught research program administration, and I staged several campus-wide expositions to introduce NIH program directors to new techniques and technologies for administering grants. Because of the excellent training I got from Saul, Steve, and especially Larry on psychometry, I became an NIH science officer for the biggest computerized adaptive testing development project since CAT-ASVAB called the Patient Reported Outcomes Measurement Information System (PROMIS). This 10-year, $200-million-dollar project involved most NIH institutes and numerous universities.

PROMIS helped to establish an international gold standard for general-medical patient self-reported symptoms. Coincidentally, my Navy background helped me to convince the Department of Defense to adopt PROMIS for recovery monitoring.

In 2012, after 44 years of federal service, I retired a second time due to pressing eldercare responsibilities on two continents. I still write, consult, and do research, but at a more relaxed pace. Somewhat like Luke Skywalker in the Star Wars movies, I still hear the voices of all three of my major professors suggesting ideas, designs, and strategies. It is the lot of we academic orphans to become the legacy of our mentors, even those of us with applied careers.

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How Do Our Conference Sessions Track With SIOP's Top Workplace Trends?

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Over the past few years, SIOP has researched and published a list of the top 10 workplace trends. For those who may not have participated in the surveys previously, this list is developed by interviewing and then surveying SIOP members to see what trends may be ahead based on research and what I-O psychologists see changing in their organizations. Members are asked what "the next big thing" is that organizations will research or implement in the upcoming year and what trends members anticipate. The list is established by feedback from hundreds of I-O professionals. The top 10 workplace trends of 2016 can be found on SIOP's website.

Around the time of the release of SIOP's Top Ten Trends for 2016, the SIOP Content Initiative (SCi) Task Force was created to amplify the distribution and visibility of content presented at the annual conference. From its beginning, our task force analyzed data from SIOP's annual conferences in order to investigate acceptances by topic, which then raised several questions about how the top trends compared to the research presented by I-O professionals. Our think-

ing was that if these trends are at the forefront of organizational science, then the current research should reflect those trends. Since it is often difficult to evaluate research-practice gaps with journal articles due to lengthy publication processes, conference presentations can give a more realistic view of the cutting-edge topics in the research field. In short, if the same populations were identifying trends and submitting conferences sessions, we would expect to see overlap between these at SIOP's annual conference.

To explore the question further, two members of the SCi Taskforce coded accepted 2016 Annual Conference sessions according to their title and abstract, and matched these to the top ten trends from 2016. The primary coder assigned matches to each of the sessions, and the secondary coder reviewed the work, accepting or changing the coding scheme.

The analysis that follows provides various avenues for research, based on the gaps between what our members say are priorities for organizations, and the sessions that are presented at our annual conference. For those trends that were present in the sessions, the order was not similar. For example, diversity, most popular topic in conference sessions, showed up as #9 on the trend list. Big data, which was at the top of the trend list, ranked at #6 in conference sessions, and the majority of sessions could not be coded to fit into the published trends. However, full correspondence between emerging trends and SIOP-presented content, if were to ever be achieved, would itself be problematic; our field's work is an intentional blend of shoring up the foundations of existing topics, and exploratory investigations of new ones.

The reality is that although the top 10trends survey asks SIOP members what the pressing topics will be for organizations, the origin of I-O research is typically far broader and includes topics that are core to organizations even if technology or trends have not changed vastly in those domains. To put it in perspective, in 2016 we had 687 accepted sessions, and those spanned over 34 content areas. It could be the case that one should not expect these two groups to match. Also, SIOP-presented research often serves as a lag indicator of a well-crystallized topic rather than a lead indicator of an emerging and understudied topic area. In other cases, particularly for research-oriented sessions, work emerges at SIOP while progressing through and being refined for the journal-publication process. Regardless, we feel that a closer examination of trend–session links at our annual conference, by sheer numbers the largest source of I-O-generated thought leadership each year, can illustrate the opportunity for cyclical reinforcement between trends and knowledge sharing.

Overall, we found:

- The majority of the sessions **did not** fit any of the top ten trends. Only about 35% of the 687 sessions were identified as relating to one the top 10trends.
- Looking across the top 10trends mapped to the sessions, diversity was the topic most frequently represented in SIOP 2016 sessions, followed by work–life balance (WLB), technology, engagement, and performance management.
- The trends themselves varied in breadth, some were more focused, such as the intersection between WLB and generations, and others were broader, such as engagement.

Below you will see, in order of the SIOP 2016 trend prediction, the top 10trends that were identified by SIOP members, a brief description of each trend as per SIOP's website, and how they were represented (or not) at the SIOP 2016 conference. Additionally, we've included our observations of the sessions matching the topic, as well as interpretations for researchers or practitioners in each of the domains.

#1. Leveraging and Maximizing Big Data and Applying the Correct Analytics to Make Better Business Decisions

Description: I-O psychologists will help organizations understand what secrets can be unlocked from big data sets, what questions to ask, what hypotheses to test, while applying proper analysis and providing interpretations to drive business decisions.

Observations: Using big data to make better organizational decisions is trending in many areas, and SIOP's entire Leading Edge Consortium in 2016 also targeted this area of making sense of big data for the purpose of analytics-guided decisions about talent. Although many SIOP 2016 sessions addressed data and analysis, far fewer—only 11 out of 687—dealt with truly big data (e.g., datasets too large to store and process with a personal computer) and its role in better business decisions. Although posters dominated accepted sessions at the annual conference, many more presentations on big data were master sessions, panels, and symposia. These presented case studies, debated identified versus anonymous use of survey data, and provided tutorials on using R for big data. As for topic areas identified by the presenter, these sessions ranged across a wide breadth of topics, from legal issues, to leadership, performance, and technology, and as expected, measurement and methods.

Interpretations: Big data has gained prominence in many fields looking to make better business decisions, and the gap between our number one identified trend and conference sessions reflects room for improvement. This gap could also reflect a distinction between the aspirational goal of working with massive-scale employee datasets to keep pace with other organizational functions, and the reality for many researchers is that data that don't meet the scope and scale criteria to be considered "big data." Yet, many core principles of solid research design, careful choice of analytical methods, and awareness of legal and ethical concerns relating to use of people data need to be in place regardless of the size of the dataset; we can make strong contributions to the big data dialogue by not only continuing to advance and improve our methods for analyzing data but also by providing frameworks and guideposts for our field and others to help increase the odds that big data-driven decisions will be fair, ethical, and robust, not just predictive.

#2. Trends in Technology Are Changing the Way Work Is Done

Description: We are becoming increasingly reliant on technology and automation that will change jobs. I-O psychologists will work with organizations to envision the impact that technology and automation will have on future business and help identify the skills the workforce will need for success.

Observations: SIOP's published trends predicted that, "I-O psychologists can work with organizations to envision the impact that technology and automation will have on business in the future and help identify the skills your workforce will need to be successful in that world." At SIOP 2016, 25 out of 687 sessions evaluated how technology is changing the way work is being conducted in organizations, and the topic category of "Technology" was itself added starting with SIOP 2015. Many presented sessions evaluated how training is changing due to new technologies and uses of technologies such as virtual reality methods, MOOCs, and video games. Other presentations focused on how mobile devices change the boundaries of work and can influence work–life balance.

Interpretations: Although these sessions are advancing our understanding of how technology affects work or the new methods (research, selection) being introduced, most did not cover the core premise of the trend that could highlight what new jobs are present or what kind of skills will be needed for the future. Of primary interest to members—but few SIOP 2016 presentations—is how technology will automate jobs and change the types of skills individuals need in the workplace.

#3. Managing Virtual Teams

Description: Increasingly, work is becoming more about what you do rather than where you do it, as more people are working remotely. I-O psychologists are working to help ensure virtual teams collaborate effectively and remain productive despite working in different locations.

Observations: Recognizing that work is becoming more and more virtual, the third predicted trend was managing virtual teams. However, only 7 out of 687 SIOP 2016 sessions covered virtual terms. Those that did focused on how to lead and manage virtual teams and explored trust issues. All the same, SIOP 2015 had two sessions on virtual teams, whereas SIOP 2016 saw a total of six, representing a notable increase in virtual teams research.

Interpretations: Much like big data, there is a gap between emerging trends in organizations and research presented at our annual conference. In this case, the small number of sessions may be due to the challenging nature of team-based research, paired with an even stricter sample criteria of these teams needing to be virtual in nature. As organizations trend toward more virtual or remote work, it may increase the opportunity to conduct research here.

#4. Changing Nature of Performance Management and Development

Description: More and more organizations are changing the way they approach performance management, moving from forced distributions and ranking systems to ongoing conversations between manager and employee that encourages performance development.

Observations: Performance management has been evolving from a focus on ratings to a more holistic strategy to improve performance and develop employees. At SIOP 2016, 24 of 687 total sessions reflected this trend. These sessions were the closest match to predicted trends in the

SIOP article. Multiple sessions stressed the evolving nature of performance, and moving from forced distribution to continuous improvement.

Interpretations: The SIOP community still recognizes the importance of improving the measurement of performance. However, members are also advancing our understanding of how to make the broader and more holistic performance management process more effective and are generating this information at a time when it can be both practical and valuable for organizations making the transition away from a ratings-based, episodic performance management process.

#5. Employee Engagement

Description: Engaged employees are more likely to go above and beyond their job duties, roles, and responsibilities while driving innovations and improvements. I-O psychologists will help assess engagement within organizations and identify opportunities to increase it.

Observations: The 2016 trend predictions proposed that although employee engagement peaked a few years ago, it still remains an important topic to organizations, leading to renewed interest. Of the sessions that covered engagement, the topical areas identified by the submitters spanned measurement, teaching, work and family, and job attitudes. A small group of sessions focused specifically on how integrating "fun" could lead to higher engagement. Sessions also researched the role of managers on engagement and included telecommuting and work–life balance as unexpected influencers.

Interpretations: Although the SIOP 2016 trends indicated that employee engagement is having a comeback, only 24 out of 687 SIOP 2016 sessions mentioned engagement. There did not seem to be a central theme regarding employee engagement. Notably, the topic category job attitudes/engagement showed a steady decrease between SIOPs 2012 and 2016 (see tiny.cc/SIOPprogram); this may show that I-O research is unlikely to ebb and flow with organizational interest and that engagement is perceived by many I-O psychologists as an outdated topic, despite the surge in workplace interest.

#6. Increasing Focus on Health and Wellness in the Workplace

Description: Happy, healthy employees are more productive than those who are not. They take fewer sick days and are generally more engaged in their work. I-O psychologists can help provide the right perks and incentives to drive health-conscious behaviors and improved mental and physical well-being to increase organizational effectiveness.

Observations: Although health and wellness is a very broad topic, the SIOP workplace trends hypothesized that I-O psychologists could help organizations to find the "right" incentives for a healthier workforce. Only 11 out of 687 SIOP 2016 sessions aligned closely to this category of Increasing Focus on Health and Wellness in the Workplace, and eight of those were posters. Many of these focused on the role of mindfulness in improving employee experiences. A lesser

amount examined the impacts of workplace stressors and individual differences on organizational outcomes.

Interpretations: The identified trend for health and wellness included a focus on incentives to keep employees healthy, and therefore more productive and perhaps more engaged. Although the upward trend in mindfulness in the workplace may improve employee health, it doesn't quite address if organizational support for healthy endeavors leads to larger organizational outcomes; this remains a largely unaddressed research topic.

#7. Increased Focus on Business Agility and Flexibility in Work and Business Processes

Description: Agile and flexible organizations are willing to take risks, learn from mistakes, and respond quickly so that innovations become a natural part of organizations' ecosystems. I-O psychologists help organizations streamline processes and remove roadblocks to productivity that allow employees to focus on developing innovative solutions.

Observations: Recognizing that organizations and processes must be agile to succeed was the seventh top trend for 2016. At SIOP 2016, 4 out of 687 sessions focused on increasing the innovation of employees or the agility and flexibility in work and business processes. These sessions that were accepted included training for novel content, like innovation, identifying individual differences in agility, comparing new work models for the 21st century, and learning strategies to speed up leadership development for the purpose of creating more agile organizations.

Interpretations: Most work on agility is focusing on the individual and not on the organization. Perhaps there will be growth in the area, but there is not yet the leap to thinking about business processes and of agility as an organizational characteristic, not only an individual difference.

#8. Work–Life Balance Across Generations

Description: Because of increased reliance on social media, smartphones, and virtual work, the lines between personal and professional lives will continue to blur. Each generation within the workforce manages this overlap differently. I-O psychologists can help employees maximize performance and thrive in a world with fewer boundaries between work and life while managing the different needs across generations.

Observations: Addressing work–life balance (WLB), and the differences for what that means for different generations was the 8th top trend. This trend addressed the blurred line between professional and personal, and how I-O psychologists can help navigate that line across generations. At SIOP 2016, 42 out of 687 total sessions addressed work–life balance examined commuting, teleworking, and family support from organizations. These sessions focused both on the individual differences of employees and the structures provided by organizations to support WLB.

Interpretations: Although many sessions at SIOP 2016 addressed WLB, and the intersection of technology in assisting to make WLB better, these sessions lacked a strong intersection with generational differences. This can also be an area where researchers can challenge the stereo-types of assumptions about "generational differences", putting generational-based influences on WLB in context with other key factors such as career phase, culture, and environment.

#9. Building Healthy, Diverse Workforces.

Description: I-O psychologists can help implement strategies resulting in a healthy, diverse workforce that is able to tap into the collective power of everyone within an organization. This may include implementing hiring practices that assess diverse characteristics, rewarding those who collaborate within diverse teams, or unconscious bias training.

Observations: It was proposed that I-O psychologists could assist diverse organizations across all workforce functions. If we were to rerank the top 10 workforce trends based on their repre-sentation at SIOP 2016, Diversity would be ranked number one. This topic was represented by 120 or about 20% of the 687 total sessions in Anaheim, California. Topics ran across all diversity factors and included how to recruit and retain a diverse workforce, addressing discrimination, and managing diversity.

Interpretations: Clearly as the US population becomes more diverse, workplaces become more diverse. The importance of creating inclusive environment should take precedence. Many or-ganizations are taking steps to improve inclusion and diversity practices and the research repre-sents that, an encouraging sign for the relevance of our work to this as one of the most chal-lenging issues facing many organizations and society in general.

#10. Using Social Media to Make Employment-Related Decisions

Description: The legal ramifications and concerns for using social networking sites when making employment-related decisions are being raised by legal professionals and I-O psychologists. I-O psychologists can help organizations balance the risks while maximizing the benefits associated with using social media in employment practices.

Observations: The final trend addressed in 2016 was the use of social media in organizational decision making. There were very few sessions at the annual conference that addressed the use of social media: 2 out of 687 total SIOP 2016 sessions, and the majority addressed social media in the hiring process, not in other employment practices. Topics addressed mostly staffing and technology and were evenly split between poster and panels.

Interpretations: Again, this area remains an opportunity in growth and breadth for I-O re-search. Although social media is currently being researched for its role in selection processes, there is an opportunity to talk about its role in engagement, in sharing cumulative work-related knowledge, in building culture, and possibly blending it with research on virtual teams.

Conclusion

Although the analysis and synthesis above are largely for individual researchers and practitioners, we do have a few final considerations for SIOP as well. Given the current timing of the top trend list release (late January) and the SIOP submission cycle (late September), we as members will continuously be at odds to refocus research and submit in advance to ensure conference content is being covered. One consideration would be for us to consider releasing the trends on a timing that allows SIOP members to better calibrate their upcoming research and presentations against these workplace trends. Even 9 months is unlikely to allow sufficient time to fully launch and execute a research program. Also, certain SIOP formats—such as roundtables, panel discussions, communities of interest, and alternative session types—may be well-suited to trend discussions that don't rely on completed research due to the longer cycle for the latter.

One final recommendation is that we continue to track and publicize key trends impacting the workplace, based on the views of I-O psychologists and of business leaders. A focus exclusively on trends as fellow I-O psychologists see them would be too myopic. As we compile and update trend lists, these can also be useful as a structure for aggregating information generated by our conferences to help us track progress against these themes with high relevance to the workplace. We can also do more to publicize our work on these trends outside of the SIOP community, prioritizing these themes in our outreach and dissemination efforts.

Interested in exploring the SIOP conference data on your own? Check out our dashboard at tiny.cc/SIOPprogram. This tool, the SIOP Program Explorer, was created by the SCi Task Force to show SIOP conference content across years in an interactive view. The original article for the release of the dashboard can be found at: http://www.siop.org/article_view.aspx?article=1562

Questions or comments about the findings or analysis, please email Jessica Thornton (jess.thornton@gmail.com).

SIOP Announces Top 10 Workplace Trends for 2017

SIOP Administrative Office

The Workplace Continues to Rapidly Change, Data Is Still Big, Greater Emphasis on Employees' Needs and Differences

SIOP is pleased to announce its fourth annual Top 10 Workplace Trends list!

Industrial-organizational psychologists study workplace issues of critical relevance to business, including talent management, coaching, assessment, selection, training, organizational development, performance, and work–life balance. What workplace needs are I-O psychologists predicting businesses will want to address in 2017?

To create this list, SIOP asked its members for their predictions, compiled those predictions into a list of possible trends, and surveyed our members to identify which were the top 10 that organizations are likely to see emerge or continue to grow in 2017. More than 800 of our members responded, and here's what they had to say:

#10. Increased Focus on Employee Health and Wellness: Stress has become a fact of life for today's average employee—whether it is caused by increasing workplace demands, a changing organizational environment, or economic hardships. As research continues to illuminate the effects of stress on employee satisfaction, motivation, effectiveness, and engagement, employers can expect to place more emphasis on safeguarding their employees' mental, physical, and emotional well-being for the benefit of the organization. I-O psychologists can help design and implement training and programs designed to help employees manage stress, find work–life balance, improve workplace safety, and find time to remain physically fit in spite of workplace demands.

#9. Data Integration Across Sources, Systems, and Processes: Data are ubiquitous in today's organizational climate, and this year will see a greater focus on data integration. Organizations will focus on combining multiple disparate pieces of workforce data (e.g., engagement surveys, HRIS data, exit interview data) and performing analytics across data and over time. Employers will need to improve data analytics across the enterprise—with a greater focus on gathering it, mining it, analyzing it, and interpreting it. We will see an increased use of data collection methods, and organizations may begin to explore nontraditional frontiers, such as marrying internal with external data and measuring social networks/collaboration. I-O psychologists can help organizations design data sources to allow this integration; they also have the statistical background to analyze and interpret those data sources to provide valuable insights into the employee experience.

#8. Growing Importance of Diversity and Inclusion: From recruitment to selection to experiences on the job, this year organizations will focus on diversity and inclusion and how they drive organizational outcomes. Specific issues include understanding how implicit/unconscious bias affects how you interact with others, an increased diversification in the workplace, the need to be more inclusive, and issues arising from an increasingly global workforce. I-O psychologists develop training and programs that will help employees recognize their unconscious biases and understand how it shapes their behaviors.

#7. Capturing the Voice of the Employee: Employees' voices will become more important to organizations this year as they focus on collecting employee feedback more frequently, utilizing innovations for capturing that feedback, and taking action to drive engagement based on those results. Organizations may explore changes to the way they capture employees' voices and move beyond quantitative surveys to qualitative measures and other nontraditional approaches, such as utilizing continuous listening/pulse surveys and examining passive data for employee opinions and behaviors. I-O psychologists are uniquely qualified to help organizations develop, implement, and analyze data from employee feedback.

#6. The Changing Nature of the Workforce: As Baby Boomers continue to retire and younger generations enter the workforce, organizations' demographics will evolve, with lasting implications for organizational culture and management. Millennials and later generations have reshaped the workplace in a multitude of ways and will continue to push boundaries and redefine expectations as they take on a more prominent role within organizations. Organizations may need to continue to redesign jobs and workspace to accommodate Millennials. At the same time, new technology and innovations will push for further automation of tasks and the growing use of artificial intelligence could have drastic implications for how organizations and employees function. I-O psychologists can assist organizations in determining how jobs will and should change and how organizations can best approach potential changes to ensure the best outcomes.

#5. Flexibility and Its Effect on the Way Work Is Done: For many employees, the typical 9-to-5 Monday through Friday work schedule is a remnant of the past. Continued focus on the benefits and drawbacks of offering more flexibility for employees will put this topic at the forefront of many employers' minds this year. As more organizations begin to embrace flexible work schedules and arrangements, telecommuting, and virtual teams, a greater emphasis will need to be placed on how these changes affect the way people get their work done, how they collaborate, and how to create meaningful, satisfying interpersonal interaction among remote workforces. I-O psychologists can offer evidence-based solutions to institute and improve flexible work arrangements and can assist organizations in understanding whether and when flexible work arrangements help or hinder employee well-being and effectiveness. They can offer powerful insights, tools, and strategies for leveraging flexibility to produce the best organizational outcomes.

#4. People Analytics: Not only will organizations be focused on integrating data from across multiple sources and systems, but they will also see a growing focus on using analytics to address talent-related questions. Talent/people analytics will continue to be a top priority for organizations this year, with employers using analytics for HR decision making, assisting in selection decisions, and talent identification and management. Organizations will need to focus on how to leverage the massive amounts of data collected on employees to drive better insights. I-O psychologist are ideally suited to helping organizations predict workforce trends and can provide predictive analytics to help answer people-related questions using data. They can also assist in addressing the ethical issues in using big data, standardizing processes, incorporating big data into personnel research, and driving awareness of issues such as validity and privacy.

#3. Leveraging Big Data to Make Data-Driven Decisions: Big data has been one of the biggest organizational buzz words for several years, but data aren't of much use without taking action on it. This year, we will see organizations work to tie all their data to workforce planning to make better, informed business and workforce decisions. Data-based strategic decision making will go beyond data analytics to create meaningful data-based action plans. I-O psychologists can assist in statistical analysis and help companies use the results wisely. As the marketplace proliferates with new "Business Intelligence" vendors and solutions that are advertised to un-

cover "hidden trends" in organizations' data, I-O psychologists can help bring science-based solutions to the workplace and help business leaders understand what's realistic and what's not. I-O psychologists can play a role in leveraging all forms of data to help organizations, leaders, and employees make better, more fact-based decisions. They can help companies understand the true potential of advanced analytics and produce solid business insights by using strong evaluation methodology and focusing on the validity of big data.

#2. Adapting to Change Effectively: The workplace continues to evolve at an ever-increasing pace. In response to those changes, organizations will need to focus on increasing agility and working efficiently and effectively in the face of constant change. Major structural changes are occurring in the world economy, and many organizations are not equipped to think strategically about those changes and their workforce implications. I-O psychologists can assist companies with adapting their culture to changing workforce needs and helping leaders adapt to a changing world through adaptive leadership.

And the #1 trend this year…

#1. The Changing Nature of Performance Management: How to evaluate and manage performance has been one of the key issues organizations have faced in recent years. News headlines have focused on large corporations ending annual performance reviews and ratings, but what will take their place? As organizations continue to face issues with traditional performance management systems proving ineffective or having a negative impact on engagement and culture, they can expect a greater need to think outside the traditional performance review box and focus more on evolving and redesigning performance management systems, rethinking annual reviews and ratings, and evaluating goal setting.

Organizations can expect to rely less on once-a-year performance appraisals and more on frequent feedback and coaching to put the focus on improving performance. Strategies, such as continuous performance management, will lead to a greater emphasis on real-time feedback, daily manager–employee relationships and an increased need for managers to acquire the skills to coach and deliver timely feedback to employees. I-O psychologists will continue to research and identify the right balance between coaching and more formal organization-wide processes. I-O psychologists can also play a role in critically assessing the efficacy of new performance management systems.

Key Findings

- **Performance management has pushed to the top of the list.** As performance management continues to change, it appears to be gaining traction in the eyes of I-O psychologists. Performance management has been on the list the last 4 years, but it takes the #1 spot this year, climbing from #4 last year (Changing Nature of Performance Management and Development), #7 (Emphasis on Recruiting, Selecting for, and Retaining Potential) on 2015's list and #3 in 2014 (The Talent Question).

- **Big data and analytics slips from the top but continue to be very important.** Although big data and analytics has slipped out of the top two spots this year, data-related trends take up three spots this year, the most of any previous list (#3. Leveraging Big Data to Make Data-Driven Decision**s**, #4: People Analytics, and #9. Data Integration across Sources, Systems, and Processes). Big data/analytics has held a spot on the list every year so far, so it doesn't appear to be going anywhere soon.
- **"Technology" falls off the list, but it's more relevant than ever.** Technology has dropped off this year's list, but it continues to be an overarching theme in almost every trend this year. "Trends in technology are changing the way work is done" came in at #2 last year. Although the term "technology" isn't on this year's list, that technology is essential to nearly all of this year's trends, whether it is using new technology to capture the voices of employees (#7), the implications of technology, such as automation, on the changing workforce (#6), the necessity of technology for workplace flexibility (#5), or the multitude of ways technology fosters data collection and analysis (#3, #4, #9), technology and its role in the workplace can be seen across this year's list.
- **Social media has dropped off the list.** Although social media has completely dropped off the list this year from its #10 place spot last year, it may still remain relevant to the several data-driven trends this year, such as data integration across sources, at #9. Will it become more integrated into the workplace across all trends like technology has?
- **A lot of changes.** Several of the trends on this list signify great changes in the way workplaces function. Whether it's changes to long-time performance management strategies, changes to the way work is performed, changes in the workforce demographics in general, or helping organizations adapt to those multitudes of changes, it appears "change" will be a major trend itself in organizations this year.

This year's trend list was compiled by SIOP Communications Department and the Media Subcommittee of SIOP's Visibility Committee based on two online surveys sent to approximately 8,000 SIOP members October through December of 2016. Read last year's list here. The 2015 and 2014 lists are also available on the SIOP website.

To learn more about what SIOP's Visibility Committee and Media Subcommittee are doing to drive awareness about I-O psychology, please contact **Stephanie Klein** (srklein42@hotmail.com), Visibility Committee Chair, or **Liberty Munson** (Liberty.Munson@microsoft.com), Media Subcommittee Chair.

REPORTS

Report of the Executive Director Selection Advisory Committee

Tammy Allen, Milt Hakel, Bill Macey (co-chair), Fred Oswald (co-chair),
Ann Marie Ryan, Neal Schmitt, Nancy Tippins

In our last column, we described our progress in recruiting candidates for the executive director (ED) position, which at that time was nearly complete. We continued to receive expressions of interest through September 1st and completed our initial screening interviews in early September. We then met as a group to determine the pool of seven finalist candidates, each of whom was invited to visit the SIOP Administrative Office (AO) in Bowling Green to complete the assessment process. The individual assessments were conducted the weeks of October 3 and October 10.

The assessment process was a day-long affair not including the prework, which included an online personality assessment. After orientation to the day, the candidates first completed a measure of reasoning ability and then participated in a complex leadership simulation exercise lasting nearly 4 hours. Subsequently, each candidate met with the AO staff over lunch. They also had the opportunity to meet with Dave Nershi in private conversation. To finish the day, they were interviewed by two of our committee members using a structured protocol linked to the job analysis results we obtained earlier (see our column in the Summer issue). The interviews were typically a little less than 2 hours in length. As one of us recently said, the process was both "exhaustive and exhausting."

The last 2 weeks of October were largely occupied by our analysis of the assessment data. After completing our individual candidate rankings, we met as a committee in early November to discuss the assessment results. The task was difficult as each of the finalists possessed significant strengths relative to the requirements of the ED role. That said, there was strong consensus among the committee members as to the top candidates. We then presented our recommendations to the Steering Committee (SC) that includes the president, past-president, president-elect and financial officer. By the time this column appears in press, the SC should have met and negotiated an offer with our next ED. (See the announcement here.)

We wish to extend our gratitude to our assessment partners who provided highly useful support and expertise. We thank as well Dave Nershi for his invaluable guidance as we navigated through this selection process. Special thanks are also due the entire AO staff for creating the physical arrangements at the office and most importantly for taking on an active role at such a busy time of the year. Finally, this writer is indebted to each of his colleagues for the energy, wisdom, responsiveness, and geniality displayed throughout the entire process. This was a team effort in the very best sense of the word.

If you have any comments or questions, please direct them to Bill Macey (wmacey9@gmail.com).

Addendum

The members of this committee are particularly grateful for Bill's leadership throughout this process. He has devoted a tremendous amount of time and energy to lead this team to a very important decision. We appreciate Bill's guidance throughout, his attention to detail, and his integrity that ensured every candidate got a fair evaluation.

Tammy, Milt, Fred, Ann Marie, Neal, and Nancy

SIOP Orlando 2017: A Welcome From Your Conference Chair
April 27-29 (Preconference Activities April 26)

Chu-Hsiang (Daisy) Chang
Michigan State University

SIOP 2017 is just a few short months away—Orlando here we come! Take advantage of this annual opportunity to develop, network, and engage with all that is I-O. Here is what you need to know:

Book your hotel room at the Walt Disney World Swan and Dolphin Resort
This lake-front hotel provides the ideal backdrop for our conference. The entire scholarly program will be held in the Dolphin hotel. The Resort offers a wide variety of activities on site (there are five pools in the resort!), various Disney-related benefits (e.g., transportation to the parks; extended park hours), and is within walking distance from bars and restaurants ranging from family-friendly choices to foodie-approved options. The online reservation for the hotel is now open. Take advantage today for the special SIOP room rate!

Plan your travel!
Orlando can be accessed through the Orlando International airport. You can choose from a variety of transportation options, including private sedans, taxi, and shuttle, to travel between the airport and the hotel.

Register for the conference!
A few quick mouse clicks now will ensure that you get our best rate. The early registration deadline is **February 22, 2017**.

Utilize preconference activities!
There are a number of fantastic preconference development opportunities that will maximize your conference experience.

Workshops. **Emily Solberg's** team has paired an all-star, engaging, expert presenters with 11 cutting-edge topics. You will be amazed by how much you can learn in a single day! If you can't devote a full-day for the workshop yet still want to pick up some new skills, we have a solution for you. Based on the feedback from past workshop attendees, this year we offer a flexible half-day option for attending either the morning or the afternoon sessions. Space is limited. Register early for this premier opportunity for professional development and continuing education in I-O psychology.

Consortia. For the past 3 decades, SIOP has been offering preconference development opportunities that are carefully designed to support students in master's (Master's Consortium) and doctoral programs (Doctoral Consortium) and early career professionals pursuing academic careers (Junior Faculty Consortium). This year, **Tracey Rizzuto** and her committee are proud to offer the Early Career Practitioner Consortium, expanding the preconference developmental opportunities to four partially integrated consortia.

Newcomers. Is this your first SIOP? We want to welcome you to our conference at a newcomer's reception at 5:00 pm on Wednesday afternoon. We also invite you to participate in the Ambassador's program, which will connect you to a returning SIOPer who can give you firsthand insight into the conference highlights.

Join the opening plenary!
The conference officially begins with the all-conference opening plenary session on Thursday morning. After a brief welcome message from your Conference chair (yours truly), the announcement of award winners (Awards Chair **Joann Sorra**) and the new Fellows (Fellowship Chair **Kenneth De Meuse**), SIOP's President-Elect **Fred Oswald** will introduce our SIOP President **Mort McPhail.** Mort will address how we can build on the existing foundation and explore new directions for our science and practice.

Immerse yourself in the conference program!
The submissions that you carefully crafted and thoughtfully reviewed will be showcased in 3 days of outstanding posters, symposia, panels, roundtables, and debates. **Zack Horn's** Program committee has also constructed an amazing set of invited sessions that will feature an exciting Thursday Theme Track on a set of future-oriented topics to explore new frontiers, six Friday Seminars, and opportunities to engage in timely Communities of Interest.

Take a Fun Run!
Join race director **Paul Sackett** and a growing number of speedy I-O psychologists for the 24th Annual Frank Landy 5K Fun Run. The race will begin just outside of the conference hotel along the lakes and beaches!

Volunteer!
Students, are you looking for a way to get more involved? Are you interested in meeting and networking with other students and members of SIOP? Would you like some extra spending money while at the annual conference? If you answered yes to any of these questions, we have a solution. Check out the website for more details or reach out to the Volunteer Coordinator (**Kaleb Embaugh**) at kembaugh@pradco.com with any questions.

Don't miss the closing plenary and reception!
Although we can't share the keynote speaker's name at this time, the speaker we have scheduled has risen to heights unsurpassed by any past keynote speaker or conference attendee! The speaker's address will be followed by a Latino themed closing reception with music by the band Coco Loco. Be sure to stay through Saturday to enjoy a Havana night!

The Orlando conference is destined to be one of the best yet, thanks to your outstanding submissions, hundreds of gracious volunteers, and the incredible dedication of our stellar Administrative Office staff.

2017 Conference Program

Zack Horn
Program Chair, 2017

We received over 1,420 submissions for the 2017 SIOP conference in Orlando! Around 950 submissions were accepted for what is expected to be a first-rate conference. FUN FACT: a whopping 91 submissions included reproducible research, a new addition to SIOP 2017, and many were very highly rated, so be sure to flag a few of these when you see them in the program (way to think forward, SIOP!). In fact, so many were highly rated that, along with our highly attended HR Track (on Friday), SIOP 2017 is also featuring a reproducible research track on Saturday. More details to come on those tracks, so stay tuned!

In addition to the peer-reviewed master tutorials, debates, symposia, panels, posters, roundtables, and alternative session types, the Program Committee has been working tirelessly to assemble a quality collection of Friday Seminars, Invited Sessions, Featured Sessions, Communities of Interest, a Master Collaboration, and a full-day President's Theme Track (on Thursday). A preview of these sessions is offered below, with more Program details to come as the conference approaches.

Theme Track:
Driving Breakthroughs by Anticipating What's Next: Planning for the Future of I-O Psychology
(Chair: Tracy Kantrowitz)

The President's Theme Track, running throughout the first day of the conference, presents a series of sessions on a unifying topic that resonates with our full SIOP audience, spanning practitioners, academics, and students from across the globe. This year's Theme Track is titled "Driving Breakthroughs by Anticipating What's Next: Planning for the Future of I-O Psychology" and is designed to bring President **Mort McPhail's** vision to life. These five sessions will celebrate progress through the years, highlight ongoing initiatives that chart a course for the future, propose new frontiers and up-and-coming career paths, and debate what's really new on a variety of trending topics. We are excited to offer an exceptional lineup of presenters on a compelling set of future-oriented topics that will provide guidance and insight to all SIOP members on how to prepare for the future.

Theme Track sessions are presented consecutively on Thursday in the same room: Southern Hemisphere I. You can stay all day or choose to attend individual sessions that are of most interest to you. Check out http://www.siop.org/Conferences/17con/Regbk/themetrack.aspx for learning objectives, continuing education credits, and additional details for each session.

How the World Changes I-O as I-O Changes the World, 10:30-11:50
Richard Landers (Chair), Ted Kinney (Co-Chair), Miriam Erez, Ruth Kanfer, Steve Kozlowski, John Mathieu, Rob Ployhart, and **Gilad Chen (Discussant)**
Based on the 2017 SIOP theme, "Exploring New Frontiers," this session calls on five experts to describe how I-O psychology has reacted to major world changes and what role I-O has played in those changes. These areas include international pressures and globalization, paradigm

shifts in psychology, the evolution of technology, war and conflict, and civil rights and social change. Presenters will discuss the history of these issues and the future of I-O and HR in a panel format with questions from the audience.

Shaping the Future of I-O Through Multidisciplinary Approaches, 12:00-1:20
Valentina Bruk-Lee (Chair), Samantha Taylor (Co-Chair), Amy Grubb, Leslie Hammer, Ben Hawkes, Autumn Krauss, Steven Poelmans, Eduardo Salas, and **Steven Rogelberg**
Advances in science and practice are born from blending knowledge across disciplines. Discover innovations to our knowledge of work, its design, and its impact resulting from multidisciplinary efforts. Find out why the future of I-O is multidisciplinary in this vibrant Ignite session from leaders in both academia and practice.

As the Pendulum Swings: Debating What's Really New in I-O, 1:30-2:50
Samantha Taylor (Chair), Lynda Zugec (Co-Chair), Dennis Doverspike, Alan Colquitt, Seymour Adler, Aman Alexander, Dan Putka, Eden King, and **Jennifer Deal**
This debate on the future of I-O psychology will contrast perspectives on topics that have tended to "swing" in direction over the history of the field. Are these fads or natural evolution? How can I-O psychologists balance "trends" with science? What can stop the pendulum from swinging in the future? Pairs of presenters will debate the topics of performance management, I-O and data science, and generational differences in the workplace.

Learning From "Career Visionaries" to Create Future Contribution Paths, 3:30-4:50
Ted Kinney (Chair), Valentina Bruk-Lee (Co-Chair), Alex Alonso, Sarah Fallaw, Alexis Fink, Rick Jacobs, Elizabeth Kolmstetter, and **Michael Woodward**
Despite the growth and recognition of I-O psychology, our career paths are often described narrowly. As I-O seeks to contribute to ever-changing organization structures and dynamic definitions of work, new "contribution" paths can be explored. During this session, six presenters with unique career paths provide guidance about future "contribution" options. What opportunities and challenges lie ahead for organizational psychologists in an increasingly cross-boundary world?

Predictions on The Future of Work, 5:00-5:50
Lynda Zugec (Chair), Richard Landers (Co-Chair), Libby Sartain, and **Evan Sinar**
How aligned is our work with the workplace issues that business executives feel will propel their companies into the future? From technology disruption to generational differences, there are many external forces shaping the way in which work is being conducted and conceptualized. Featured speaker Libby Sartain brings a wealth of executive experience as head of talent at Yahoo and Inc. and Southwest Airlines, and will help spark a reevaluation of how I-O can ensure ongoing impact by aligning with these forces.

Special Sessions
(Chair: Madhura Chakrabarti)

Open to all attendees, the 2017 SIOP Special Sessions are packed with action-oriented and forward looking topics and speakers. The four invited sessions (*speakers* are invited; anyone can attend)

provide insights into leading-edge research and, for the first time, introduces the highly anticipated *Shaken & Stirred* event to SIOP. The Master Collaboration sessions brings science and practice together to discuss some of the most impactful skills that are *not* being learned in graduate school. Last, and completely redesigned for SIOP in 2017, three *Featured Sessions* pair 2016 Award Winners together to offer strategies, tips, and examples for building and maintaining a competitive edge in your I-O career. No signup is necessary for these sessions, and all SIOP attendees are welcome.

Invited Session: SIOP Shaken & Stirred
Jennifer Weiss (Chair), Aarti Shyamsundar (Co-Chair), Derek Avery, Alexis Fink, Amy Grubb, Ben Hawkes, Mikki Hebl, Megan Nolan, Mitchell Marks, Mike Morrison, In-Sue Oh, Tom O'Neal, Doug Reynolds, Steven Rogelberg, Katina Sawyer, John Scott, and **Ben Taylor**
SIOP is excited to introduce Shaken & Stirred: an innovative, new event designed to celebrate those who are pushing the boundaries of I-O psychology's contributions to the world and challenge others to do the same. Fifteen handpicked thought leaders and mavericks within and outside I-O have just 2 minutes each to answer one seemingly simple question: "What if?" Inspired by the wildly popular 20x2 SXSW events, Shaken & Stirred is not a session, it's a provocative and entertaining experience you will not want to miss. For more details see
http://www.siop.org/Conferences/17con/Regbk/addresses.aspx!

Invited Session: Reflections on the State of Science
Benjamin Biermeier-Hanson (Co-Chair), Gilad Chen (Co-Chair), Talya Bauer, Fred Morgeson, Mo Wang, and **Eduardo Salas**
I-O psychology is seeing continued and dramatic growth as our field enters its second century of existence. In addition to membership growth, we continue to see both theoretical and methodological advances that shape the state of the science in I-O psychology. The present session brings together thought leaders in three broad focal areas: (a) building the workforce, (b) experiencing and engaging in work, and (c) managing the workforce. These speakers will review the current state of the science while highlighting critical future research directions.

Invited Session: Towards a "New Organization": Building and Measuring Teams
Madhura Chakrabarti (Chair, Discussant), Shawn Del Duco, Ashley Goodall, and **Gary Johnsen**
"New Organization: Different by Design" (or, a team of teams) is the #1 trend as per Deloitte's 2016 Global Human Capital Trends Survey. What makes teams effective? How does one measure its effectiveness? Why do we like some teams more than others? How can one use this knowledge to enhance team performance? Practitioners from three large organizations will present their current leading-edge research on teams and applications of this research, and discuss surprising commonalities (and differences) among the findings.

Invited Session: New Wine, New Bottle—NLP Applications to Talent Management
Subhadra Dutta (Chair), Alexis Fink (Co-Chair), Eric O'Rourke, Ernest Ng, and **Brian DeBar**
As part of the Big Data movement in I-O psychology, machine learning techniques such as natural language processing (NLP) are receiving more attention and for making sense of unstructured text data in people analytics. Such techniques use algorithms trained in rules of language to de-

code and make sense of raw text. This symposium brings together practitioners from the tech industry to illustrate ways in which NLP is being used in people analytics (e.g. engagement surveys, performance themes, goal setting, etc.) to provide new, meaningful, employee insights.

Master Collaboration: What We Did Not Learn in Graduate School
Eric O'Rourke (Chair), Levi Nieminen (Co-Chair), Chris Cancialosi, Wendy Mack, David Morgan, and **Chantale Wilson**
This session will attempt to close the academic–practitioner gap by diving into skills I-O psychologists need to succeed in their careers but were not part of their formal graduate training. Researchers and practitioners will come together to discuss relevant/impactful skills such as personal branding, selling, machine learning, and data visualization. The Master Collaboration is a continuing education credit opportunity (more details can be found at
http://www.siop.org/Conferences/17con/Regbk/master_collab.aspx).

Featured Session: Disruptors in the Field: Thinking Forward With Practice Award Winners
Leaetta Hough, Anthony S. Boyce, Jeffrey S. Conway, and **Pat M. Caputo**
Establishing your career as a change agent and building industry-shaping collaborations are skills demonstrated by of some of the greatest disruptors in I-O psychology. This session explores strategies that drive these individual and team-based successes, presented by recent winners of the Distinguished Professional Contributions Award and M. Scott Myers Award.

Featured Session: The Future of I-O in Practice: Insights From Award Winners
Tori Culbertson and **David Van Rooy**
The future of I-O psychology in practice is changing as industries and technologies rapidly evolve. To establish a successful career, our practitioners need top-notch training and continued agility throughout their careers. SIOP brings together recent winners of the Distinguished Teaching and Distinguished Early Career Practice Awards to share best practices in teaching and building an impactful career as an I-O practitioner.

Featured Session: Building a Pipeline and Sustaining Success as an I-O Scientist
In-Sue Oh and **Eduardo Salas**
A fast start and commitment to adaptability are key ingredients for maintaining scientific excellence as an I-O psychologist. Recent winners of the Distinguished Early Career Science Award and Distinguished Scientific Contributions Award join forces to showcase tips and strategies for building a fast-rising career and sustaining a pipeline of excellence as an I-O scientist.

Communities of Interest (COI) Sessions
(Chair: Tony Boyce)

The 2017 SIOP Community of Interest sessions provide a forum for you to share your voice and shape how I-O makes an impact in 12 influential topic areas. Each interactive session is designed for you to meet new people, discuss new ideas, and have an active role in a conversation that will prove instrumental to pushing forward a hot topic in I-O. These sessions have no chair, presenters, discussant, or even slides. Instead, they are audience-driven discussions moderated this

year by two facilitators on a single topic of interest. You will meet potential collaborators, generate ideas, have meaningful conversations, meet some new friends with common interests, and/or expand your network to include other like-minded SIOP members. **These 50-minute conversations run continuously on Thursday and Friday in room Asia 3.**

- *Shootings and Hate Crimes: How I-Os Can Help & Support*
  Hosts: **Kecia Thomas** and **Brian Roote**
- *Editorial Landscape: Where We've Been and Where We're Going*
  Hosts: **Steve Kozlowski** and **Brad Bell**
- *I-O Psychology and the Space Program*
  Hosts: **Brandon Vessey** and **Suzanne Bell**
- *Technology Trends Leading HR Practice: Key Opportunities for Research?*
  Hosts: **Jessica Kane** and **Josh Sacco**
- *Understanding the Emerging Discipline of Organizational Neuroscience*
  Hosts: **Susan Zhu** and **Wen-Dong Li**
- *Onboarding Community of Interest: Onboarding Matters*
  Hosts: **Talya Bauer** and **Megan Huth**
- *Fostering Collaboration Between Data/Computer Scientists and I-Os*
  Hosts: **Pat Caputo** and **Michal Kosinski**
- *Trends in Job Analysis Research & Practice*
  Hosts: **Jason Randall** and **George Alliger**
- *The Meaning and Usefulness of Resilience and Grit for I-O Psychology*
  Hosts: **Marcus Crede** and **Mike Ford**
- *Inductive Research in I-O Psychology*
  Hosts: **Fred Oswald** and **Dan Putka**
- *Multiteam Systems*
  Hosts: **Leslie DeChurch** and **James Grand**
- *Trends in Learning and Development Research & Practice*
  Hosts: **Amy DuVernet** and **Tara Behrend**

Friday Seminars
(Chair: Kisha Jones)

We are pleased to share with you the lineup for this year's seminar presenters and topics. The Friday Seminars offer researchers and practitioners an opportunity to develop new skills, explore new topics, and keep up with cutting-edge advances in research and practice. The invited experts will provide a thorough discussion of the topics in an interactive learning environment (e.g., lecture accompanied by break-out discussions, case studies, experiential exercises, and networking).

Space is limited and Friday Seminars do sell out, so we encourage you to register early to secure your spot. The Friday Seminars are continuing education credit opportunities (please see http://www.siop.org/Conferences/17con/Regbk/fridayseminars.aspx for more information).

The Use of "Mobile" Devices in Employment-Related Testing and Assessment
8:00 am–11:00 am, Northern Hemisphere A1
Winfred Arthur, Jr.
This seminar will provide an overview of the empirical employment-related unproctored Internet-based testing (UIT) device-type literature and present a conceptual framework for understanding and predicting when, how, and why UIT device types should and should not affect assessment and test scores. The implications for practice and research will be discussed.

Bridging the Scientist–Practitioner Gap: Becoming Better Informed Consumers of Research Findings
8:00 am–11:00 am, Northern Hemisphere A2
Wayne Cascio and **Sheldon Zedeck**
To become a better-informed consumer of research findings, one must "master the basics" of statistics, research design and research methods. This seminar focuses on the latter two topics. The presenters will address issues such as sampling, causation, the ability to generalize findings, and key questions related to field, laboratory, and questionnaire research.

The Intersection of Diversity and Defensibility
11:30 am–2:30 pm, Northern Hemisphere A1
Toni Locklear and **Keith Caver**
The demographic and cultural shifts reshaping our workforce have ushered in new challenges for employers seeking to embrace inclusivity while concurrently mitigating risk in talent management and reward practices. This session will help participants understand how legal defensibility goals can align with and even advance diversity and inclusion goals.

Experience Sampling Methodology
11:30 am–2:30 pm, Northern Hemisphere A2
Louis Tay and **Marilyn Uy**
This session is designed to help researchers and practitioners understand and utilize novel techniques to capture employee experiences in real time on a regular basis to address interesting and important organizational questions. The session is designed to be relevant to (a) organizational researchers interested in the issue of time and temporal dynamics, and (b) human resources professionals/consultants who want to explore and develop new ways of assessing employee experiences.

Performance Management Reform: What Works and Where We're Still Missing
3:00 pm–6:00 pm, Northern Hemisphere A1
Elaine Pulakos and **Sharon Arad**
Over time, performance management processes have become more formalized, time consuming, and process rich. But the question increasingly being asked is: Are they yielding sufficient ROI to justify their time and costs? We will review the state of the practice, what we've learned, and most promising methods for PM reform.

Automated Conversion of Social Media Into Data: Demonstration and Tutorial
3:00 pm–6:00 pm, Northern Hemisphere A2

Richard Landers

Recent technological advances have brought the automated collection of data from social media, such as personal websites, discussion forums, Facebook, and Twitter, within the abilities of the average I-O psychologist. In this hands-on workshop, learn the ins and outs of these big data techniques, using freely available open-source software.

Call for Applications: TIP-TOPics Student Columnists

The August edition of *The Industrial-Organizational Psychologist (TIP)* will mark the end of the 2-year tenure of our current TIP-TOPics columnists: **Grace Ewles, Jessica Sorenson,** and **Thomas Sasso**, from the University of Guelph. As they prepare to depart the *TIP* team, we begin a new search for columnists to continue the tradition of communicating the graduate student experience within the webpages of *TIP*.

TIP-TOPics is a graduate student editorial column published in *TIP*, which has been very popular historically. The column provides information and advice relevant to SIOP's student membership, as well as to prospective graduate students and faculty.

The columnist team may be made up of 1-6 students from the same university or different universities; however, you must be current Student Affiliates of SIOP in good standing. In order to showcase unique approaches to graduate studies in I-O psychology, applicants should attempt to represent diverse experiences (e.g., education level, background, career aspirations, etc.). Proficiency in English, strong written communication skills, and experience within SIOP or I-O psychology are desirable.

The TIP-TOPics columnists will have a 2-year tenure beginning with the October 2017 issue and ending with the July 2019 issue. Columnists must be graduate students throughout this period, thus all prospective columnists should be at least 2 years from graduation. Columns are approximately 2,000 words, due quarterly (August 24, November 24, February 24, May 24), and written according to APA guidelines.

Application Information

Statement of interest and one letter of recommendation (from a faculty member who is familiar with the work of the potential columnist/s) should be sent via e-mail to **Tara Behrend** (behrend@gwu.edu) by **April 10, 2017**. The statement of interest should include the following: (a) all potential columnist names, university affiliations and expected graduation dates, and areas of expertise; (b) an explanation of how your team will work together; and (c) a statement explaining your interest in pursuing this position and your plan for how you will approach the content, style, and structure of the column, including a few potential column topics.

News From the SIOP-United Nations Committee:
Congratulations to George Mason I-O for Becoming a
United Nations Global Compact Participant!

SIOP United Nations Committee

SIOP plays a special role as an official nongovernmental organization (NGO) with consultative status to the Economic and Social Council of the United Nations. The SIOP-UN committee organizes all of SIOP's UN-related efforts, including projects in support of the UN Sustainability Goals, and the submission of (requested) statements on issues pertinent to work and organizations (e.g., the aging workforce, living wages, humanitarian work psychology, and the economic empowerment of underrepresented women and girls). As part of this work, SIOP has also become an official United Nations Global Compact participant. This means we have formally signed on to 10 humanitarian/sustainability principles surrounding human rights, labor, environment, and anticorruption.

SIOP has since launched a campaign to help SIOP members advocate to their employers to also sign on to this voluntary code of conduct. A toolkit has been developed to assist those working for organizations, as well as for I-O graduate training programs.

We are pleased to announce that the I-O program at George Mason University has officially become a Global Compact participant. SIOP-UN Representative **Deborah E. Rupp** caught up with GMU I-O Professor **Eden King** to talk about their application process, as well as their UNGC-supporting activities:

DER: Congratulations on Mason I-O becoming a United Nations Global Compact participant! It's wonderful to see I-O graduate programs signing on the [10 Principles](#) in support of decent work for all.

EK: Thank you! We are really proud to be a small part of the larger efforts to achieve a better world. It's inspiring to see how I-O psychologists have a role to play in supporting human rights, labor, the environment, and anti-corruption practices.

DER: Indeed. So, being an official Global Compact participant means that the I-O program is committing to engage in activities that are in the spirit of the 10 Principles. I know when Purdue applied, it was exciting for us to take the time to both think about the things we were *already* doing as a program that aligned with the principles, as well as what sorts of new things we might do going forward. What is the Mason program already doing and what does it plan to do that is consistent with the 10 Principles?

EK: When we sat down to think about it, we realized that a lot of our efforts outside of the classroom are very much aligned with the principles. For example, Mason graduate students serve as pro-bono consultants in the [Volunteer Program Assessment](#) process, which directly supports the efforts of nonprofits across the country. As another example, the scholarship of faculty and students at Mason directly addresses concerns about social inequalities manifested in the workplace and strategies for improving the well-being of workers. Where we have room to grow, I think, is in the ways that we bring the principles into classroom instruction and discussion. I'm hopeful that we will be more purposeful in our initiations of conversations that pertain directly and indirectly to the Global Compact 10 Principles.

DER: This all sounds wonderful. One goal we set for ourselves was to have at least one brown-bag speaker a year present research that connects either to the 10 Principles or the [UN Sustainable Development Goals](#). Similar to your account, once we took a look back, we realized we have been doing this all along, with speakers presenting on topics such as diversity, corporate social responsibility, humanitarian work psychology, and the like. Even still, setting a formal goal to keep doing this feels right--to continually remind ourselves of our ethical obligations as psychologists working within or studying organizations.

EK: Very cool and very "meta"—using I-O psychology (goal setting) to help I-O psychology improve the world!

DER: (Smiles.) I hope **(Edwin) Locke** and **(Gary) Latham** are reading this. So let's talk a little about the nuts and bolts of applying to be a UN Global Compact participant. How did you all go about the task? Any lessons learned along the way that would be helpful for other programs wanting to follow in your footsteps?

EK: The SIOP UN Committee's [toolkit](#) made it very easy for us! We used many documents as templates to modify for our purposes. For example, we adapted the communication that Purdue used with their dean to correspond with our dean. As another example, we mirrored the application form directly after the example on the SIOP website. The major distinction between our process and the one described on the website was that our university is already a signatory of the Global Compact. This means that George Mason as an institution has already signed on. It turns out that our president was one of the folks who helped to shape academic institutions' participation in the Global Compact! So we had to figure out how to frame our application to indicate our separate yet related support of the 10 Principles.

DER: That is awesome! So will the I-O program be coordinating Principle-consistent efforts at the university level? The university must be very happy about your grassroots efforts. Any intersection of activities?

EK: I think the university will be able to cite our program's participation in the Global Compact as evidence of its involvement; I imagine that we will be able to describe the work of the I-O program in the university's biannual report to the UN.

DER: That's great. Anything else you'd like to share with the SIOP community about GMU and the Global Compact?

EK: I would say that we are proud to be one of the first I-O programs to join the Global Compact, but we would be even more excited if **every** I-O program decided to participate. Ultimately, our impact will be strengthened through a shared commitment to the 10 Principles.

More information about the George Mason I-O program can be found [here](#). More information about SIOP's UN Efforts can be found [here](#). The SIOP UN Committee encourages SIOP members to reach out to us for support with joining the Global Compact and would love to hear from both new and old Global Compact participants.

SIOP@APS 2017—Updates on the Boston Program

Silvia Bonaccio
University of Ottawa

Margaret Beier
Rice University

Harrison J. Kell
Educational Testing Service

Christopher Wiese
Purdue University

If you love psychological science and if you love Boston, you won't want to miss the upcoming Association for Psychological Science's (APS) Annual Convention. The **2017 APS Annual Convention will be held May 25-28** at the Sheraton Boston Hotel.

Although the symposium deadline has passed, there is still time to submit your poster by **January 31, 2017** (http://www.psychologicalscience.org/conventions/annual/call-for-submissions)**.** Poster acceptances are communicated on a rolling basis. The sooner you submit your work, the sooner you'll know if it is accepted for presentation!

In addition to an exciting APS general program (http://www.psychologicalscience.org/conventions/annual/program) and informative workshops (see the APS website for the list of topics), the I-O featured speakers are as follows

- Symposium: Deciding, Fast and Slow (in the Workplace)
  - **Reeshad Dalal** (George Mason University)
  - **Dev Dalal** (University at Albany, SUNY)
  - **Scott Highhouse** (Bowling Green State University)
  - **Edgar Kausel** (Pontificia Universidad Católica de Chile)

- Symposium: Emotions at Work
  - John Trougakos (University of Toronto at Scarborough)
  - Sigal Barsade (University of Pennsylvania)
  - Gerben van Kleef (University of Amsterdam)
  - **Howard Weiss** (Georgia Tech)

- Invited Addresses:
  - **Christopher Barnes** (University of Washington)
  - **Michael Frese** (National University of Singapore)
  - **Sabine Sonnentag** (University of Mannheim)
  - **Gillian Yeo** (University of Western Australia)

- **Belle Rose Ragins** (University of Wisconsin, Milwaukee) will be speaking as part of the APS-wide Cross-Cutting Theme "The Many Flavors of Relationships."

Don't forget that you're invited to join us at the **I-O happy hour at APS**, which is a great place to make new connections and to get a drink on us! We look forward to seeing you in Boston! Stay connected to future developments by following us on Twitter and Facebook.

Membership Milestones

Compiled by Jayne Tegge, Membership Services Specialist; Stephany Below, Communications Manager; and Clif Boutelle, SIOP Public Relations

SIOP Initiates Sterling Circle to Recognize Long-Time Members

Members are the heart and soul of SIOP and are greatly appreciated for their interest and contributions. Many members—nearly 800—have been with the Society for 25 years or more. To recognize the contributions and loyalty of these dedicated members, SIOP has developed a new initiative called the Sterling Circle. Sterling Circle members will be honored in several ways and can be identified at SIOP events with a special ribbon on their badges. **Learn more about the Sterling Circle here!**
Following is a complete list of SIOP's Sterling Circle Members*:

Mike Aamodt	Greg Gormanous	George Neuman
Joseph Abraham	Gary Gottfredson	Gary Nickell
Nancy Abrams	Karen Grabow	Bernard Nickels
Seymour Adler	George Graen	Dianne Nilsen
Herman Aguinis	Paul Green	Raymond Noe
John Aiello	Carl Greenberg	Gail Nottenburg
Tammy Allen	Jeffrey Greenhaus	Kenneth Nowack
Teresa Amabile	Gary Greguras	Joseph Nowlin
Maureen Ambrose	Bruce Griffiths	Lynn Offermann
Marcia Andberg	C. Michael Grissom	Greg Oldham
Lance Anderson	James Grosch	David Oliver
Neil Anderson	Phyllis Grummon	Laurel Oliver
Richard Andrulis	Stephen Guastello	Richard Olson
Sharon Arad	David Gudanowski	Julie Olson-Buchanan
Cheryl Armstrong	Stanley Gully	Cal Oltrogge
David Arnold	Nina Gupta	Deniz Ones
John Arnold	Rhonda Gutenberg	Dennis Organ
Winfred Arthur	Richard Guzzo	Thordur Oskarsson
Richard Arvey	Rick Hackett	William Owen
Ronald Ash	Milt Hakel	Ronald Page
Susan Ashford	Rosalie Hall	Tanya Page
Neal Ashkanasy	Jane Halpert	David Palmer
Steven Ashworth	Leslie Hammer	Susan Palmer
E. Kate Atchley	Tove Hammer	Ellen Papper
Leanne Atwater	Paul Hanges	Maria Park
Jan Aul	Curtiss Hansen	Luis Parra
Virginia Austin	Jo-Ida Hansen	Vance Patterson
Daniel Averbeck	Thomas Harn	Karen Paul

Seymour Adler

Partner

Aon Hewitt Talent Solutions

SIOP has been my professional home throughout a long career. The annual conference has been—ever since Chicago in 1986—the best few days of my year, each and every year. SIOP is where I have been able to keep valued relationships alive by reconnecting face to face with beloved and admired colleagues, friends, students, and (alas, as I age, no longer) professors. It has also been the venue most central to expanding my contacts and friendships within the field, often through new folks I have met at the great party my firm throws for us each year at SIOP.

Professionally, there is no more valued recognition than peer recognition. So I will forever be indebted to SIOP making me a Fellow. Similarly, I have been so honored to have been asked to deliver four preconference workshops (on four very different topics!) in the past decade—lots of work, but so gratifying.

The conferences (SIOP, LEC), *JAP, TIP*, the Professional Practices series, have served as outlets for communicating my own contributions to the field. More critically, these channels help me to keep current on developments in research and practice, increasingly from sources around the globe."

Bruce Avolio
Roya Ayman
Paul Babiak
Peter Bachiochi
David Baker
Kerrie Baker
John Ballard
William Balzer
Cristina Banks
Margaret Barbee
Lizabeth Barclay
Janet Barnes-Farrell
Robert Baron
Gerald Barrett
Murray Barrick
Lori Bartels

David Harrison
Robert Hartford
Robert Harvey
Veronica Harvey
Donald Harville
Kate Hattrup
Mark Haucke
Neil Hauenstein
Jacob Hautaluoma
Rosemary Hays-Thomas
Jerilyn Hayward
John Hazer
Jerry Hedge
Jennifer Hedlund
Tonia Heffner
Madeline Heilman
Michael Hein
Cheryl Hendrickson
William Hendrix
Robert Heneman
Martha Hennen
Ramon Henson
Norman Hertz
Beryl Hesketh
Russell Hibler
John Hicks
Scott Highhouse
Carolyn Hill-Fotouhi
Thomas Hilton
Verlin Hinsz
Amy Hirsch
Gilbert Hoffer
Calvin Hoffman
David Hofmann
Robert Hogan
George Hollenbeck
John Hollenbeck
Heather Honig
Schwenneker
Linda Hoopes
Leaetta Hough
Ann Howard
John Howes
Mary Wilson Hrivnak

Cheryl Paullin
Edward Pavur
Jone Pearce
Kenneth Pearlman
Patricia Pedigo
Jose Peiro
Larry Pelensky
Miriam Pemberton
Gloria Pereira
Carey Peters
David Peterson
Norman Peterson
Jane Petrick
Edmund Piccolino
Patrick Pinto
David Pollack
Samuel Pond
Paula Popovich
Patrick Powaser
Robert Pritchard
S. Douglas Pugh
Elaine Pulakos
James Quick
Patrick Quinn
Miguel Quinones
Charles Raben
Samuel Rabinowitz
Belle Rose Ragins
Stuart Ralsky
Roland Ramsay
Michael Raphael
John Rauschenberger
Elizabeth Ravlin
Patrick Raymark
Richard Rees
Walter Reichman
Nora Reilly
Richard Reilly
Roni Reiter-Palmon
Douglas Reynolds
Ronald Riggio
Rony Rinat
Chet Robie
David Robinson

Kathryn Bartol	Pete Hudson	Robert Robinson
Margaret Barton	Jennifer Hughes	Steven Robison
Marino Basadur	Daniel Ilgen	Joanna Rock
Alan Bass	Andrew Imada	David Rodriguez
Mariangela Battista	Greg Irving	Steven Rogelberg
Ramzi Baydoun	Sharon Israel	Evelyn Rogers
J. Anthony Bayless	Edmond Israelski	Robin Rojas
Julia Bayless	Kenneth Jackson	JJ Roomsburg
Dan Bean	Susan Jackson	Dale Rose
Greg Beatty	Rick Jacobs	Ned Rosen
Laura Beauvais	Carolyn Jagacinski	Theodore Rosen
Thomas Becker	Nancy Jagmin	Paul F. Ross
Terry Beehr	Arthur Jago	Philip Roth
Michael Beer	P. Richard Jeanneret	William Rothenbach
LeAnne Bennett	J. Michael Jenkins	Hannah Rothstein
Barbara Bessey	Steve Jex	Patricia Rowe
John Binning	John Johanson	Marian Ruderman
Don Birkeland	Gary Johns	Brian Ruggeberg
Katherine Bittner	Gene Johnson	Steven Runde
Mark Blankenship	Ronald Johnson	Craig Russell
Belinda Block	Steven Johnson	Joyce Russell
Melvin Blumberg	David Jones	Teresa Russell
Philip Bobko	John Jones	Ann Marie Ryan
Linda Bodnar	Robert Jones	Jeffrey Ryer
Walter Borman	Leslie Joyce	Sara Rynes
John Boudreau	Philip Jury	Lise Saari
David Bownas	K. Michele Kacmar	Paul Sackett
David Bracken	Ruth Kanfer	Christopher Sager
Margaret Bradley	Barbara Karol	Alandria Saifer
Joan Brannick	Ronald Karren	Eduardo Salas
Michael Brannick	Gary Kaufman	Jeffrey Saltzman
Thomas Braun	Harold Kaufman	Juan Sanchez
Eric Braverman	Jerard Kehoe	Irene Sasaki
James Breaugh	Patricia Kelley	Jack Sawyer
Thomas Brice	John Kennedy	John Sawyer
Arthur Brief	Kenneth Kerber	Lyz Sayer
Robert Brill	Mary Kernan	Russell Scalpone
Joel Brockner	Gerald Kesselman	Terri Scandura
Albert Brockwell	Manfred Kets de Vries	Virginia Schein
David Brooks		Frederic Schemmer
Scott Brooks		Lisa Scherer
Dennis Brophy		William Schiemann
Eric Brown		Jeffery Schippmann
Louis Buffardi		Frank Schmidt

Carrie Bulger
Michael Burke
W. Warner Burke
Scott Button
Dirk Buyens
Laura Byars
Peter Bycio
William Byham
Paula Caligiuri
John Callender
Wayne Camara
Richaurd Camp
John Campbell
Wanda Campbell
James Campion
Michael Campion
Jonathan Canger
Robert Cardy
Lisa Carey
Anne Marie Carlisi
Howard Carlson
Thomas Carretta
Gary Carter
Wayne Cascio
Barbara Caska
Victor Catano
Brian Cawley
Maurice Cayer
Douglas Cellar
Paul K. F. Chan
Benzion Chanowitz
Georgia Chao
Robert Chell
Randall Cheloha
Peter Chen
Donna Chrobot-Mason
Beth Chung
Allan Church
William Clark
Jeanette Cleveland
Robin Cohen
Raymond Colangelo
Stephen Colarelli
Adrienne Colella

Paul C. Green

Associate Director

University of West Florida

"My membership in SIOP/Division 14 has been the single most important contributor to my profes-sional growth in my post-PhD life. This has been the foundation for my education as a practitioner and the inspiration for my enduring interest in behavioral interviewing. I heard John Flanagan talk about critical incidents job analysis, saw a young Gary Latham present on avoidance of interviewing errors, heard Mike Campion give one of his first presentations on interviewing, saw the great debate between Bernard Bass and Marvin Dunnette on "Dustbowl Empiricism," worked on the HR Impact committee with Rich Klimoski, and participated in a competency building seminar led by Alexis Fink. This is like having inexpensive front row seats to hear Elvis, Aretha, Merle Haggard, Wilson Pickett, and Gloria Gainer. SIOP Rocks!"

Shelley Kirkpatrick
Michael Kirsch
Howard Klein
Richard Klimoski
Theresa J. Kline
Avraham Kluger
Deirdre Knapp
Patrick Knight
Thomas Kohntopp
Elizabeth Kolmstetter
Andrea Konz
Richard Kopelman
Laura Koppes Bryan
Janet Kottke
Steve Kozlowski
Kurt Kraiger
Allen Kraut
David Kravitz
S. David Kriska
Amy Kristof-Brown
Jeffrey Kudisch
Carol Kulik
John Kunzo
Gary Kustis

Mark Schmit
Neal Schmitt
Benjamin Schneider
Jeffrey Schneider
John Schnorr
Lior Schohat
Dora Scholarios
Brian Schrader
Mary Schratz
M. Peter Scontrino
John Scott
Karen Sears
Lance Seberhagen
Steve Sellman
Valerie Sessa
Comila Shahani-Denning
Ronald Shapiro
James Sharf
Michael Sheppeck
Reginald Ronald Shepps
Elizabeth Shoenfelt
Lynn Shore
Allen Shub
Kenneth Shultz
William Siegfried
Stanley Silverman
Rob Silzer
Gordon Simerson
Robert Sinclair
Daniel Skarlicki
David Smith
Matthew Smith
James Smither
Robert Snyder
Marc Sokol
Mark Somers
Melvin Sorcher
Richelle Southwick

Joe Colihan
Judith Collins
Alan Colquitt
Maureen Conard
Paul Connolly
Kelley Conrad
Jeffrey Conte
James Conway
Kevin Cook
Paul Cook
Michael Coovert
John Cope
Karen Coplan
John Cornwell
Jose Cortina
Charles Cosentino
David Costanza
William Costelloe
Robert Costigan
John Cotton
Gary Coulton
Carol Lynn Courtney
Karen Couture
Gena Cox
Russell Cropanzano
Bill Curtis
Fred Dansereau
Diane Daum
Laura Davenport
Donald Davis
Mark Davis
Sandra Davis
David Day
Russell Day
Kenneth De Meuse
Jonathan Dehlinger
Douglas Deis
Angelo DeNisi
Donna Denning
Dennis Dennis
Sandra Dennis
David Denton
Elizabeth Denton
Randy DeSimone

Gary Lambert
Steven Lammlein
Charles Lance
Ronald Landis
John Langhorne
Stephen Laser
Elliot Lasson
Gary Latham
Luanne Laurents
Edward Lawler
Julia Leaman
Dennis Lee
Shin-Chin Lee
Thomas Lee
Joel Lefkowitz
Bjorn Leiren
Michael Leiter
Ariel Levi
Edward Levine
Paul Levy
Robert Lewis
Daniel Lezotte
Philip Lichtenfels
Cary Lichtman
Robert Liden
Mark Lifter
Kenneth Lloyd
Edwin Locke
Toni Locklear
Kay Loerch
Brian Loher
Manuel London
Felix Lopez
Robert Lord
Robert Lorenzo
Kevin Love
Rodney Lowman
Kyle Lundby
Kathleen Lundquist
Patricia Lynch
Karen Lyness
Michelle Lynskey
Therese Macan
David MacDonald

Mitchell Marks

Professor of Leadership

San Francisco State University

"Membership in SIOP has meant to me a sustained connection with my professional identity. I have split my career between academic positions—primarily business schools—and business positions. Unfortunately, I have not had other I-O psychologists as colleagues. So, whether it is attending con-ferences to learn about the latest theory and prac-tice, collaborating with others on SIOP publications, or receiving feedback on my own professional activities through conferences, SIOP has literally kept me connected with I-O psychology and psychologists.

SIOP has also meant resources to assist my career. This includes opportunities to present at conferences and publish books and chapters through the Professional Practice and other series. In addition, SIOP's Administrative Office has been enormously supportive in creating opportunities for me to be interviewed by television, print, andonline journalists. This has assisted my personal marketing efforts as well as getting the word out regarding the value of I-O psychology in business and beyond."

Stefanie Spera
Paul Squires
Dean Stamoulis
Susan Stang
Darryl Stark
Dennis Stark
Debra Steele-Johnson
Lisa Steelman
Dirk Steiner
Stephen Stelzner
Brian Stern
Cynthia Stevens
Greg Stewart
Margaret Stockdale
Garnett Stokes
Dianna Stone
Nancy Stone
Eugene Stone-Romero
Susan Straus
Mona Strean
Siegfried Streufert

Philip DeVries
Marcus Dickson
Robert Dipboye
Guy DiSpigno
Mary Doherty
Lucinda Doran
Jennifer Dose
Thomas Dougherty
Dennis Doverspike
Ben Dowell
Ronald Downey
Fritz Drasgow
Craig Dreilinger
David DuBois
Diane Ducat
John Dyck
David Dye
Lorrina Eastman
Lillian Eby
Jeffrey Edwards
Robert Eisenberger
Joelle Elicker
Bruce Erenkrantz
Andrew Falcone
James Farr
Kristofer Fenlason
Bernardo Ferdman
Philip Ferrara
Gerald Ferris
Mark Fichman
Laura Finfer
Lisa Finkelstein
Donald Fischer
Cynthia Fisher
Sandra Fisher
Sebastiano Fisicaro
Michael Fitzgerald
William Flanagan
John Fleenor
Robert Folger
J. Kevin Ford
Howard Fortson
Vincent Fortunato
Mark Foster

William Macey
Murray Mack
Charles MacLane
Stephen Magel
Debra Major
Lois Makoid
Philip Manhardt
Dianne Maranto
Lyne Marcil
Linda Marini
Val Markos
Mitchell Marks
Scott Martin
Miguel Martinez
Joseph Martocchio
Alfred Mascitti
Thomas Mason
Paul Mastrangelo
Jaci Masztal
John Mathieu
Todd Maurer
Thomas Mawhinney
Robert Mayer

Alexandra Gerbasi (Member)

Professor/Dir. of the Centre for Leadership and Decision Making

University of Surrey

"I am a professor of organizational behavior and the director of the Centre for Leadership and Decision Making at Surrey Business School at the University of Surrey. I earned my PhD in sociology from Stanford University and my undergraduate degree in history from Duke University. My research focuses on the effects of positive and negative network ties within the workplace, and their effects on performance, leadership, well-being, thriving, affect and turnover. Over the past several years, I have found that the majority of my collaborators are active participants of SIOP. As I investigated the community I found that it speaks to a variety of audiences, both academic and practitioner, which is a vital aspect of my new role as the director of the Centre for Leadership and Decision Making."

William Strickland
Alice Stuhlmacher
Eric Sundstrom
James Suzansky
Daniel Svyantek
Fred Switzer
Nicolaos Synodinos
Thomas Taber
Harold Takooshian
Jean Talaga
Scott Tannenbaum
Ross Tartell
Yvette Tazeau
Frederic Tesch
Lois Tetrick
Paul Thayer
George Thornton
Carol Timmreck
R. Scott Tindale
Nancy Tippins
Dean Tjosvold
Richard Tonowski
James Topolski
Cheryl Toth
Wanda Trahan
Stuart Tross
Michael Trusty
Suzanne Tsacoumis
Daniel Turban
Mark Urban
Paul Usala
Anna Marie Valerio
Linn Van Dyne
Judith Van Hein
Robert Vance
Jeffrey Vancouver
Vicki Vandaveer
Robert Vecchiotti
Andrew Vinchur
Chockalingam
Viswesvaran
Toby Vitek
Richard Vosburgh
Lynne Waldera

Anne Marie Francesco
Marie Francosky
Blake Frank
Nita French
Rodney Freudenberg
Walter Freytag
David Friedland
Michael Frisch
Barbara Fritzsche
John Fulkerson
Karin Fulton
John Furcon
Alberto Galue
Joseph Garcia
Donald Gardner
Michael Gasser
Ilene Gast
Rex Gatto
Arthur Gechman
Thomas Gehrlein
Kurt Geisinger
Jennifer George
George Gercken
Stephen Gerras
Charlotte Gerstner
Joyce Gibson
Joseph Gier
Roger Gill
Stephen Gilliland
Joan Glaman
Theresa Glomb
Richard Goffin
Edie Goldberg
Douglas Golden
Robert Goldsmith
Leonard Goodstein
Laura Gooler
Steven Gordon

Eugene Mayfield
Clyde Mayo
Morgan McCall
Cindy McCauley
Jeff McClafferty
Rodney McCloy
Malcolm McCulloch
Michael McDaniel
E. Craig McGee
Jeffrey McHenry
Margaret McManus
Kathleen McNelis
S. Morton McPhail
Andrew Meibaum
Joan Meldahl Murnan
Phyllis Mellon
Steven Mellon
John Meyer
Lawrence Meyers
Rosemary Miller
Harold Miller-Jacobs
Amy Mills
John Miner
Kenneth Misa
Mark Mishken
Debora Mitchell
Margaret Mitchell
Terry Mitchell
Thomas Mitchell
Michele Ingram Mobley
William Mobley
Susan Mohammed
Nathan Mondragon
MaryBeth Mongillo
Tracy Montez
Robert Montgomery
Michael Moomaw
Stacey Moran
Don Moretti
Brian Morgan
John Morrison
Ralph Mortensen
Gene Morton
Joseph Moses

David Waldman
William Waldron
Steven Walker
Ronald Waln
Connie Wanberg
Janis Ward
Glen Warshauer
David Wasson
Sandy Wayne
Karl Weick
John Weiner
Ansfried Weinert
Lyse Wells
Kenneth Wexley
Jill Wheeler
Deborah Whetzel
Daniel Whitenack
David Whitney
Dennis Whittaker
Joel Wiesen
Willi Wiesner
Jack Wiley
Christina Williams
T. Craig Williams
Wendell Williams

Kevin Mossholder	Mark Wilson
Robert Most	L. Witt
Michael Mount	David Woehr
Eugene Muller	Arthur Wohlers
Michael Mumford	Donna Wolosin
Kevin Murphy	Francis Yammarino
Mark Nagy	Ann Marie Yanushefski
Michael Nees	Tae-Yong Yoo
Andrew Neiner	Stefani Yorges
Julie Nelson	Kenneth York
Sherry Nelson	Paul Yost
	Gary Yukl
	Sheldon Zedeck
	Seth Zimmer

New Members

The life blood of any organization lies in attracting new members who bring a special enthusiasm and interest. Membership in SIOP is growing, and we take great pleasure in welcoming our newest members. They comprise a wonderful mix of former Student Affiliates upgrading to full membership and professionals, including those who previously were Associate members and International Affiliates. SIOP looks forward to these new members' participation on committees and conferences as they experience the value of membership in the premier organization for industrial and organizational psychologists.

Following is a list of SIOP's newest members*:

Brett Agypt	Andrew Goldblatt	Jeanine Porck
Mesut Akdere	Anne Gotte	Piotr Prokopowicz
Howard Allentoff	Justin Green	Brian Raming
Glorivy Arce-Minaya	Christina Gregory	Asha Ries
Syed Azeem	Cristina Hall	Philippa Riley
Ameer Basit	Jorge Hernandez	Tanisha Robinson
Michael Baumann	Woonki Hong	Kate Roloff
Chris Berger	Meg Hooper	Kristin Ronne
Ira Bernstein	Jane Hundley	Rachel Savage
Kane Bidwell	Sjen Johnson	Brittany Schmaling
Jennifer Bivens	Nneka Joseph	Kristin Scott
Melissa Bonilla Grajales	Earon Kavanagh	Rajinderbal Sidhu
Lynn Boyle	Alper Kayaalp	David Szabla
Simon Brittain	Selin Kudret	Lavinia Iuliana Tanculescu
Alice Burston	Matthew Kuschert	Keisha Tapp
Jin Wook Chang	Émilie Lapointe	Srinivasan Tatachari
Tori Chenevert	Xiangmin Liu	Elan Telem
Reda Cherifi	Janna Locke	Sarah Thomas
Louise Cox	Allison Maurer	Kathleen Tomlin
Jason Daugherty	Jennifer McEwen	Sarah Trenton
Marcele De Sanctis	Jacqueline McKay	Geoff Trickey

Cameron Dougall	Amanda Meyer	Melanie Trottier
Jan Dul	Jennifer Murphy	Aaron Vieira
Alex Dumenci	Helena Nguyen	Sylvie Vincent-Höper
Susan Dustin	Gro Hege Nordbye	Erin Vu
Gregory Fernandes	Carolin Palmer	H. Jack Walker
M. Lance Frazier	Nicole Patitucci	Carl Watson
Christopher Fultz	Matthew Patton	Kelly Weeks
Aimee Gardner	Daniela Pena	Jeremy Welland
Petra Gelléri	Jenna Pieper	Hein Wendt
Alexandra Gerbasi	Lisa Pigula	Hal Whiting
Arnnon Geshuri	Jeff Pon	

New "Associate Path to Membership" Members**

Don Scott	Hilary Butera	Ante Glavas
John Weiner	Trent Burner	Stephen Konya
Kevin Reindl	Adam Hilliard	Andrea Alameda
Sarah Evans	Lynda Zugec	Jennifer Cline
Robert Kaiser	Kathy Stewart	Paul Thoresen
Mary Ann Bucklan	Tom Briggs	

*List compiled from September 1-December 1, 2016
**Complete list as of December 1, 2016

Conferences and Meetings

Marianna Horn
APTMEtrics

2017
March 8-11
Annual Conference of the Southeastern Psychological Association. Atlanta, GA. Contact: SEPA, www.sepaonline.com. (CE credit offered.)

April 23-26
HRPS Global Conference. Miami, FL. Contact: HRPS, www.hrps.org.

April 27-29
Annual Conference of the Society for Industrial and Organizational Psychology. Orlando, FL. Contact: SIOP, www.siop.org. (CE credit offered.)

April 26–30
Annual Convention, National Council on Measurement in Education. San Antonio, TX. Contact: NCME, http://www.ncme.org/ncme/NCME/

April 27–May 1
Annual Convention, American Educational Research Association. San Antonio, TX. Contact: AERA, www.aera.net.

May 17-20
Congress of the European Association of Work and Organization Psychology. Dublin, Ireland. Contact: EAWOP, http://www.eawop2017.org/

May 21-24
Annual Conference of the Association for Talent Development. Atlanta, GA. Contact: ATD, http://www.atdconference.org/

May 25-28
Annual Convention of the Association for Psychological Science. Boston, MA. Contact: APS, www.psychologicalscience.org. (CE credit offered.)

July 29-August 3
Joint Statistical Meetings. Baltimore, MD. Contact: American Statistical Association, www.am-stat.org (CE credit offered.)

August 3-6
Annual Convention of the American Psychological Association. Washington, DC. Contact: APA, www.apa.org (CE credit offered.)

August 4-8
Annual Meeting of the Academy of Management (AoM). Atlanta, GA. Contact: AoM, http://aom.org/.

August 17
Workshop: Update on Legal Context for Employment Decisions. Georgia Association for Industrial and Organizational Psychology (GAIOP). Atlanta, GA. Contact: GAIOP, www.gaiop.org. (CE credit offered.)

September 20
Workshop: Best Practices in Organization Mentoring. Georgia Association for Industrial and Organizational Psychology (GAIOP). Atlanta, GA. Contact: GAIOP, www.gaiop.org. (CE credit offered.)

October 9-13
Annual Conference of the Human Factors and Ergonomics Society. Austin, TX. Contact: The Human Factors and Ergonomics Society, www.hfes.org. (CE credit offered.)

October 13-14
SIOPLeading Edge Consortium, Minneapolis, MN. Contact: SIOP, www.siop.org. (CE credit offered.)

November 10
Workshop: Technology-Enabled Assessment: Current and Future Directions. Georgia Association for Industrial and Organizational Psychology (GAIOP). Atlanta, GA. Contact: GAIOP, www.gaiop.org. (CE credit offered.)

November 8-11
Annual Conference of the American Evaluation Association. Washington, DC. Contact: AEA, www.eval.org.

2018
March 6-9
Annual Conference of the Southeastern Psychological Association.
Charleston, SC. Contact: SEPA, www.sepaonline.com. (CE credit offered.)

April 19-21
Annual Conference of the Society for Industrial and Organizational Psychology. Chicago, IL. Contact: SIOP, www.siop.org. (CE credit offered.)

August 9-12
Annual Convention of the American Psychological Association. San Francisco, CA. Contact: APA, www.apa.org (CE credit offered.)

August 10-14
Annual Meeting of the Academy of Management (AoM). Chicago, IL. Contact: AoM, http://aom.org/

SIOP Members in the News

Clif Boutelle

Generally when we think of the media, it is the major newspapers, magazines and network radio and television that come to mind. While they still remain important to any organization seeking to generate awareness about itself, the Internet has created an entirely new vista of media outlets that should not be overlooked. In fact, more and more organizations are utilizing online sites to tell their news.

We receive requests from online journalists looking for expertise for their stories and are able to provide SIOP member contacts, usually by utilizing SIOP's Media Resources feature. And we see more and more SIOP members contributing their own material to these sites.

As a growing number of SIOP members are finding their way on to Internet sites, the opportunities for media mentions are expanding and that is good for the field of I-O psychology.

Following are some of the media mentions, including online sites, which have occurred in the past several months.

The Nov. 14 issue of *iMeet Central* had a story about how in a virtual workforce it is often valuable to bring employees together periodically to ensure creative workplaces and that everyone is on the same page. Called core hours, their benefit is strengthening bonds between employees and elevating production overall. **Lynda Zugec** of The Workforce Consultants noted "culture is very difficult to control if you have a virtual workforce that never comes together." She said it was important to articulate the value and timing of these meetings so that workers do not feel they are a waste of time. "The whole point is that core hours happen at a time that is vital to the success of business. Highlighting the direct benefit of the core hours, on a continual basis is helpful," she added.

She also contributed to a *KJZZ FM* (Phoenix, AZ) story about the changing workplace and how some employees, particularly millennials, are leaving the office to carry out work assignments at a more relaxing and comfortable workspace. "Basically the advent and increase of technologies that enable individuals to work remotely have shifted our past perceptions of what a workspace actually is, and it gives us more choice," she said. One drawback from an employer view is that when people work remotely they often do not have a handle on what workers are doing. One solution, she says, is to bring what people like about alternative workspaces into a traditional office building." Spaces that are a little bit more lounge like and where employees move about freely are really ideal," she said.

Given the divisiveness of the recent election and feelings of workers, employers may face a divided workplace, according to a November 11 *Washington Business Journal* story. **Elliott Lasson** of the Universities of Shady Grove in Rockville, MD contributed to the piece noted that the end of the election may actually benefit the workplace, providing an opportunity for sensitivity training

or workshops on civil discourse and "how to agree to disagree and how to work together towards a common goal. In a good way we might start to reevaluate not just political candidates but also the concept of leadership and what does being a true leader really mean," he said.

No matter the war, returning to the civilian workplace brings a certain set of challenges for veterans. For its November 9 issue a *Workforce* writer contacted several veterans and professionals involved with transition programs that help veterans better prepare themselves for the civilian workforce. **Pat Engelhardt**, who served 18 years in the Air Force and is pursuing a doctorate in I-O at South Florida State University, faced several challenges when she returned to the workforce as a female veteran. "I was 37 years young and had experience most men don't have, but how could I compete for a professional position when I did not understand how the corporate America job search worked?' she asked. Now she helps veterans better adapt to the business world. **Karin Orvis** of the Defense Department's Transition to Veterans Program said "just as service members must meet military standards while on active duty, they must now also meet career readiness standards." TAP helps service members prepare sooner rather than later by encouraging them to think early in their military careers about the transition and what they will need to do to be successful. If people see veterans succeed, then the military will be seen as a more viable path for a successful career. "Effective off-boarding helps lead to effective on-boarding as well," she said.

Jennifer Deal of the Center for Creative Leadership is on a panel of *Wall Street Journal* Experts and contributes articles to the paper. Her November 3 column dealt with the often annoying occurrence of receiving "Reply All" emails at work. To go through and purge emails that are not relevant to your work takes time and attention away from real priorities, she wrote. Although receiving "Reply All" emails is annoying at worst, companies can be held responsible for the content of their employees' emails, so leaders have a vested interest in reducing the likelihood that an inadvertent click of a button can affect an entire organization. Organizations can fix this. But if they don't Deal says employees should be careful to ensure they think before hitting the "Reply All" button.

With Walt Disney Co. CEO Bob Iger's scheduled retirement looming closer, there is no clear-cut successor and the board seems to be moving slowly in evaluating candidates. In a November 1 *Wall Street Journal* article, **Paul Winum** of RHR International (Atlanta) said Disney's board should be casting a wide net, looking for candidates inside and outside the company, particularly ones with high-tech chops. "The landscape is changing so rapidly, technology is opening up new distribution platforms, and overseas markets will be huge opportunities," he said. "The leadership skills have changed dramatically just in the last 2 years."

Chicago Cubs fan **Sandy Fiaschetti** of Magnet Consulting, a Rochester Hills (MI)-based leadership and team development firm, wrote a piece for the November 4 *Crain's Detroit Business* about how the Cubs' championship season can provide leadership lessons applicable to any organization. Some observations:

1. Take a chance and invest in young leaders. The Cubs did that by hiring a young (under 40) general manager and he built a successful team good for the long haul. Firms can create a high potential list and develop their young leaders through business-practical leadership workshops with hands-on practice, leadership simulations, and individual coaching.
2. Use data from sound assessments. The Cubs used metrics to help evaluate players. Organizations can use scientifically developed skill tests, personality inventories, job simulations and behavior-based interviews in assessing employee talents. Don't rely on a "gut feel" for a person's value to the organization.
3. Have an ace, but know that your bench strength may be what wins it all for you. Although the Cubs invested heavily in pitching, even the aces got tired, and it was the relievers that helped win the series. The lesson is to not commit development resources to a few, but do your homework and build a full team.
4. Finally, don't wait 108 years to be a champion. Business is not just about putting the right strategic plan in place: it's about acquiring, developing, and motivating the team that will get the results you need.

Kathleen Lundquist of APT Metrics in Darien, CT, contributed to an Equal Employment Opportunity Commission (EEOC) hearing to consider the potential legal ramifications for companies that use big data to recruit job candidates and make hiring decisions. The hearing was reported in the October 14 issue of *Politico*. Experts have said the use of algorithms and "data scraping" of information from the internet to find and vet job applications could have a disparate impact upon minority groups. Lundquist pointed out that "algorithms may be trained to predict outcomes, which are themselves the result of previous discrimination. The high-performing group may be nondiverse and hence the characteristics of that group may more reflect their demographics than the skills or abilities needed to perform the job," she said.

Paul Baard of Fordham University contributes a regular workplace column to the *Manchester (NH) Union Leader*. His October 30 piece focused on the potential danger of incentivizing employees: that is, rewarding them for completing a project. Sometimes it is better to simply tell an employee he or she is "doing a terrific job," which can meet their motivation to excel and achieve. With consistency then a raise or promotion can follow.

Katharine O'Brien of CUNA Mutual Group in Madison, WI was asked by *True Viral News* her strategy to avoid being disproportionately asked to help or to perform tasks like pouring coffee: she simply says "no" and bluntly states she doesn't, for example, take meeting notes because she believes it puts women in a subordinate position, "I've done this for years and found it to be effective. Most people understand my reasoning and any contention it causes is fleeting," she said.

When a person is promoted to a higher position, it can sometimes be awkward working with former peers, notes an October 24 *Forbes* article. One pitfall is trying to continue acting as being another member of the team when remaining a little removed will help establish the new boss's status as someone staffers can come to for advice and guidance, without harming the reputation for being approachable and relatable. But don't remove yourself so much you appear snobbish, which

can alienate people who report to you, said **Ronald Riggio** of Claremont McKenna College. "Getting to know your employees is the key to motivating and managing your employees and to having a high-functioning team," he said. Do more delegating and avoid the trap of trying to do too much yourself, advises **Brenda Fellows** of the University of California at Berkeley. When stressed, people tend to micromanage in a misguided attempt to maintain control and authority, she said. She recommends a hands-off approach and trusting that employees will succeed. Be ready to help a team member when needed, but only then and not before, she said.

One impediment to a positive workplace is a bullying and hostile work environment according to an October 24 *METRO* article that quoted **Amy Cooper Hakim**, owner of Cooper Strategic Group in Boca Raton, FL. "A lot of people are not confrontational by nature and want to avoid uncomfortable situations. But bullies tend to prey on silent victims," she said. One way to stop them is to look them in the eye and say "Thank you. I didn't ask for your opinion." A proper leader should make sure that employees feel comfortable in their workplace by setting a tone of positive morale, camaraderie, and respect, she said.

Christiane Spitzmueller of the University of Houston was part of the team commissioned by *Houstonia* Magazine to oversee the publication's Best Places to Work survey. The results concluded there's never been a better time to be gainfully employed in Houston, where the top companies are hard at work attracting and keeping the best and brightest. What all the winners had in common was the fact that they listen to their employees and respond to their changing needs. For example, workers want more time off to travel and take care of their families," Spitzmueller said. "Fifteen years ago that wasn't much of a priority."

Business Law Daily reported on an October 13 meeting about the implications big data has for equal employment opportunities and quoted Kathleen Lundquist of SPT Metrics and **Eric Dunleavy** of DCI Consulting. "Big data, predictive analytics, or talent analytics are terms used to describe the harvesting of a wide range of empirical data for HR decision making and are the inevitable future of HR. It presents a future that is both promising and scary," she said. Dunleavy noted "The question of whether employers can leverage contemporary big data for employment decision making has been answered in the affirmative. Whether employers should do so and how to go about it in their particular situation, are separate questions."

A September 28 *NPR* program had a story about performance reviews that quoted SIOP members **Gerald Ledford** of the Center for Effective Organizations at the University of Southern California and Bradley Staats of the University of North Carolina. Organizations are taking a hard look at performance reviews, doing away with grading systems, in favor of a process that focuses on actual performance. Ledford said the vast majority of companies that no longer rank their employees replaced the rankings with more frequent, less formal evaluations. If employees are meeting regularly with supervisors the meetings tend to be less threatening. However giving more feedback comes with challenges: it demands more time of managers, he said. Staats advocated businesses collecting data that looks at a worker's process rather than just outcomes. "The end-of-project success or failure is an incomplete view. We need to know if it failed why did it fail. We need to know what was the learning that came out of it that might be

useful." Even if a performance evaluation is effective, it is unlikely to ever be popular with everyone. It is, after all, an evaluation, he said.

As business becomes more competitive, HR professionals must become more adept at workforce analytics to connect human capital and performance within their organizations was the focus of a September 27 *SHRM* article that quoted **Mark Huselid** of Northeastern University and **Alexis Fink** of Intel. The old workforce measurements may not create wealth for businesses in today's environment, Huselid said. "The things that helped us win before won't necessarily help us win in the future." He warned it's easy to become overwhelmed with data collection. More data are not always a good thing. The key is to ask the right questions. In starting a metrics initiative, focus on what problem you are trying to solve, he advised. Fink agreed. "What matter is really finding value, finding things that are really going to make a difference to your organization," she said. She listed seven key steps to data success, including asking the right questions, identifying the right method to answer the question, generate data to answer the question, analyze the data, develop insights based upon the data, take action based upon those insights and measure the results to determine in the actions taken were effective.

The September 16 issue of *Human Resource Executive* had an article entitled "Weeding Out Psychopaths," that included comments from **Paul Babiak** of HR Back Office in Hopewell Junction, NY and **William Spangler** of Binghamton University. It is crucial for HR to limit the damage psychopathic employees can cause to the organization and other employees by keeping psychopaths out of their workplaces by utilizing careful hiring procedures, the magazine noted. What sets a psychopathic leader apart is the way in which he or she manages or interacts with other people, said Spangler. "Psychopathic leaders are toxic individuals who manage subordinates with a combination of fear, threats, punishment, and public humiliation," he added. "They present a positive persona to their superiors and are often promoted for what is perceived to be their effectiveness, but they can cause great harm to the organization by destroying relationships, damaging work units, and putting the entire company at risk for legal action," said Spangler, who is in the process of developing a content-analysis program that measures psychopathic and narcissistic traits in business leaders. Babiak said psychopaths are increasingly common in business because they are attracted to the "pace and volatility of today's hypercompetitive workplaces. There are helpful tools that can be used to assess a candidate's suitability for a job and Babiak says HR must "dig deep" into the data contained in the resume and application and be diligent about "checking details independent from the references offered."

In a September 15 *Harvard Business Review* article, **Ben Dattner** of Dattner Consulting in New York City and **Tomas Chamorro-Premuzic** of Hogan Assessment Systems wrote how a CEO's personality can undermine succession planning. Some organizational leaders, they said, refuse to discuss their plans to retire and go about their business as if they will remain in their role until the end of time. Regardless of the reason for leaders' hesitancy to designate a successor, organizations need to have iron-clad and exception-free succession policies for all senior executives, they argue. They identified some scenarios in which about-to-retire leaders, because of their personalities, do not endorse a succession plan, including not having a plan at all. Others are just going through the motions of designating a successor, designating the wrong successor,

and undermining or discrediting the successor. Knowing the particular personality traits that may be driving destructive behavior can help both the departing C-suite leader and the members of the board to find a happy solution both for the executive and the company he or she is leaving, the authors concluded.

Martin Lanik of Pinsight, a leadership development firm in Denver, and Sandy Fiaschetti of Magnet Consulting in Rochester Hills (MI) were quoted in a September 1 *Crain's Detroit Business* story about growing leadership teams and developing a training model that measures executives' readiness for a particular position. "We have industrial psychologists who monitor participants' responses to determine if they are up to the job and, if so, what specific areas they need to strengthen," he said. Fiaschetti said it was important for organizations engage as many employees as possible. Companies that don't engage employees often results from a manager focusing too narrowly on what the company does and unconsciously viewing leadership training as an afterthought. "Business people can make the mistake of thinking just because they are heading up a business they can effectively oversee leadership training. But it's actually a very different skill set. "There's a necessary shift that needs to happen from being a doer to being a leader," she said.

A September 1 *Harvard Business Review* article asked "Why are some whistleblowers vilified and others celebrated?" **David Mayer** of the University of Michigan authored a reply based upon research he conducted with **Ned Wellman** of Arizona State University. **Maddy Ong** and **Scott DeRue** of the University of Michigan. In three separate studies they found that formal leaders were more accepted as whistleblowers than lower level workers, who were viewed less positively and were more likely to be targets of social sanctions. "People tend to denigrate peers for speaking up because it is not viewed as their place, but they celebrate leaders who do so because they expect them to be the moral voice of organizations," Mayer wrote. An important implication of the research is that leaders have a critical responsibility both to speak up and to create a culture where employees are accountable to one another and the organization to report any wrongdoing.

Please let us know if you, or a SIOP colleague, have contributed to a news story. We would like to include that mention in SIOP Members in the News. Send copies of the article to SIOP at boutelle@siop.org or fax to 419-352-2645 or mail to SIOP at 440 East Poe Rd., Suite 101, Bowling Green, OH 43402.

IOTAs

David L. Tomczak
George Washington University

Honors and Awards

Silvia Bonaccio, director of the new Telfer Doctoral Program at the University of Ottawa, was awarded the University of Ottawa Excellence in Education Prize.

Transitions, New Affiliations, Appointments

Dave Arnold of the Wonderlic's General Counsel, was reappointed as general counsel for the Association of Test Publishers (ATP) during its September Conference in Lisbon, Portugal.

Michelle Hammond and **Gregory Thrasher** will be joining the Human Resources Management area in the School of Business Administration at Oakland University in fall 2017.

Elliot D. Lasson was recently appointed as professor of the Practice and graduate director of the Master's of Industrial/Organizational Psychology at the University of Maryland, Baltimore County. Elliot will serve on the Department of Psychology faculty and lead the I-O program in Rockville, Maryland.

Morrie Mullins of Xavier University in Cincinnati, was recently elected to the executive board of the Global Organisation for Humanitarian Work Psychology for a 2-year term.

Dianna L. Stone recently served as a guest editor for a specialized issue of *Human Resource Management Review* covering the meta-analytic needs, limitations, and contributions of the field.

Good luck and congratulations! Keep your colleagues at SIOP up to date. Send items for IOTAs to **Tara Behrend** at behrend@gwu.edu.